

Registration Form

1. Name : _____

2. Educational qualification : _____

3. Designation : _____

4. Address for correspondence: _____

5. Phone /Mobile: _____

6. E-mail (compulsory): _____

Payment Receipt No.: _____

Date: _____

Amount (Rs.). _____

Signature of Applicant: _____

Mr. / Ms. _____

A student of this institute is hereby permitted to attend the course.

Seal & sign of

The Institute

Patron:

Dr. Mrs. S. S. Kulkarni, Director, RIT.

Convener:

Dr. S. K. Patil, Dean Academics, RIT

Coordinator

Dr. M. S. Patil
Head, Dept. of E&TC Engineering

Co-coordinators

Prof. Randhir J Patil
Asst. Prof. Dept. of E&TC

Prof. Bhagawan N. Holkar
Asst. Prof. Dept. of E&TC



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Two Week STTP

On

**Programming Techniques and
Hardware Interface using MATLAB-
Arduino, Embedded C-MSP 430
& Python – Raspberry Pi**

10th to 21st December 2018



Organised under
RIT- Center For Teaching and Learning
(RIT-CTL)
by
Department of Electronics and
Telecommunication Engineering



K.E. Society's

**Rajarambapu Institute of
Technology, Islampur**

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Learn Design Practice Develop

About the Institute

Kasegaon Education Society's Rajarambapu Institute of Technology (RIT), Rajaramnagar established in 1983, located near Islampur, 7 km away from Peth Naka off Pune Bengaluru highway. A green beautiful campus of 17 hectares and buildings on it measuring 49021 sq. m. RIT is an autonomous institute since 2011-12 offering 7UG, 12PG and 03 Doctoral programs in various engineering disciplines. RIT has emerged as a leading technological Institute in Western Maharashtra through its dedicated and disciplined approach to provide quality technical education over a period more than thirty five years.

Silent Features:

- An autonomous institute since 2011-12
- All UG/PG programs accredited/reaccredited by NBA
- Permanent affiliation of all UG program to Shivaji University, Kolhapur.
- Incubation center approved by MSINS (Gov. of MS) with 5Cr. funding.
- Accredited by NAAC and Institute of Engineers (India), Kolkata.

About the Department

Electronics and Telecommunication Engineering department of Rajarambapu Institute of Technology, established in the year 1991 with an undergraduate program in Electronics Engineering is NBA accredited four times in years 2003, 2007, 2013 and 2016. Department also runs two M.Tech. programs specialized in 'Electronics' and 'Digital Systems', both accredited twice by NBA, New Delhi. The department is recognized as Ph.D research center by Shivaji University, Kolhapur. Department has well qualified and experienced faculty and state of art laboratories. It follows outcome based teaching learning process. Department has developed several commercial products which are already available in market. It also offers consultancy in embedded control systems and automation. Department has received external funding of Rs. 75 Lacs under various schemes of different funding agencies. There are total 15 patents filed by the department.

Expected Outcomes:

After completion of workshop student will be able to

1. Program in MATLAB.
2. Design and program GUI in MATLAB.
3. Interface ARDUINO and hardware's.
4. Practice data acquisition and controlling
5. Write code in Python.
6. Use Python programming techniques for Raspberry Pi.
7. Develop IoT systems
8. Write program for MSP 430 Microcontroller
9. Practice application development and automation
10. Discuss and address practical problems
11. Use low cost hardware for desianina of optimal

Course Content:

Section I: MATLAB and ARDUINO

- a. Basic programming in MATLAB.
- b. Designing of GUI layout.
- c. Programming GUI objects (buttons, slider, list box)
- d. Introduction to ARDUINO board.
- e. Interfacing ARDUINO with MATLAB.
- f. Controlling hardware through MATLAB GUI.
- g. Standalone Applications Deployment

Section II: Raspberry Pi and Python

- a. Basic programming in Python
- b. Python Libraries.
- c. IoT Basics
- d. Introduction to Raspberry Pi Boards
- e. Hardware Interfacing

Section III: Embedded C and MSP430

- a. Basics of Embedded C
- b. MSP 430 Programming
- c. Hardware Interfacing

Salient Features:

- Industrial visit during the program
- Exclusive soft skill training program
- Visit to Patent and Product Development Cell of RIT (showcasing RIT patents and commercial products)
- Experts from industry as a resource person

Registration & Fee Structure

Who can Apply:

- TE / TY Engineering Students (E&TC, ELE, CSE)
- BE/ Final Year Engineering Students (E&TC, ELE, CSE)
- PG Students (Electronics, E&TC, DS, ES&VLSI)
- Industry persons and hobbyist

Important Dates:

- Registration Start Date: 15/11/2018
- Registration End Date: 5/12/2018
- Workshop Date: 10/12/18 to 21/12/18 (Two weeks)

Fee Structure

- (Only limited participants are allowed hurry up!! preference will be given to early bird paid participants)
- Registration Fee: Rs. 1500/- Per participant (which includes seminar kit, hardware kit)
 - Accommodation: Rs. 50/- Per day per participant (if required)
 - Lunch: Rs. 50/- per participant (if required)

Payments:

All the payments are accepted through either online or on the spot cash receipt

- **Acc. Name** : K.E. Society's Rajarambapu Institute of Technology, Rajaramnagar (UG)
- **Bank/Branch** : IDBI Bank, Kolhapur
- **IFSC Code** : IBKL0000116
- **Account .No** : 0116104000144698

How to register:

Use any one of the following method

Method 1: Scan and mail given registration form and payment receipt to randhir.patil@ritindia.edu

Method 2: Online Registration through google form registration use link given below

<https://goo.gl/forms/40IJ9xq1KBq6jUvF2>

Method 3: Request WhatsApp link on 9423984211

About the Program

This two week short term training program consists of seminars and practical sessions focusing on basic programming and GUI designing in MATLAB and programming in Python and embedded C. With help of programming techniques significant stress will be given on interfacing of basic hardware (LED, LCD, DC & Stepper Motor, Relay, BT, GSM) with ARDUINO, Raspberry Pi & MSP 430. Tools used in this course will be MATLAB software, Python Software, ARDUINO IDE & Boards, and Raspberry Pi Boards, and MSP 430 microcontrollers. All the tools and hardware are readily available in any institutes. In addition to technical skills students will be taken to industrial visit followed by soft skill session. Hence after completion of workshop students will be able utilize tools and techniques for designing and developing projects.