South Indian Education Society's
GRADUATE SCHOOL OF TECHNOLOGY, Navi Mumbai.
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Value added course on Introduction to Arduino Raspberry pi and IoT

Jan 2025 to Feb 2025(Saturdays)

Click HERE to register

There is difference between education and knowledge. Education provides learning. While knowledge translates that learning into a career that earns a living. But the truth is, our education system is largely structured around academic learning, leaving the task of turning it into a career to the individual. For the less-privileged though, the only barrier that stands between them and a technocrat is knowledge of practical aspects of technology.

This course is meant to be a hands-on type of course, giving students a chance to learn Arduino ,Rpi and its programming.

About Instructors:

This course will be taught by a team of expert from Industry and SIESGST faculty members of the Electronics and Telecommunication Department.

Industry Expert:

Mr. Hannan Satopay, Liminal Custody Solutions, Mumbai

Faculty Members:

1. Prof. Vaishali Mangrulkar
2. Prof. Pratibha Joshi

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Course Objectives:

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To develop the background knowledge and core expertise of an embedded system design.
To know the importance of different peripheral devices and their interfacing to different boards.
To know the sensor interfacing and its programming.
To write python programs for RPi for various applications.
To know the working of different sensors and their use in an embedded system
To understand the basic concept of OS and installation of OS

Course Outcomes:

Students will be able to

- Install OS for RPi
- Interface different sensors and actuators with Arduno and Rpi
- Write programs for RPi using python.
- Understand the various python commands for RPi.

Course Content:

Module	Contents	Hours
1.	Introduction to embedded system,Arduino and Rpi board.	5 hrs
2.	Introduction to basics of OS and Installation of OS in RPi board,	5 hrs
3.	Introduction of python commands for RPi, Python programming for RPi	5 hrs
4	IoT and Sensors	5 hrs
5	Interfacing of following sensors and programming for Arduino and RPi 1. LDR Sensor 2. Ultrasonic Sensor 3. DHT11 Sensor 4. Motion Sensor 5. LCD Sensor	10 hrs
6	Mini project based on Arduino and Rpi boards.	10 hrs

Assessment:

1. Module wise assignments and quizzes should be completed by students.
2. 15 Days Internship will be provided subject to the successful completion of Mini Project.

Course Coordinators:

Prof. Vaishali Mangrulkar
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Prof. Pratibha Joshi
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SIES Graduate School of Technology
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SIES Graduate School of Technology
Sri Chandrasekarendra Saraswati Vidyapuram
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Department of Electronics and Telecommunication Engineering

Event Report

Introduction to Arduino, R-Pi and IoT

January to March 2025

SIES Graduate School of Technology
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Event Information

Event Type: Value added course

Event title: Introduction to Arduino, R-Pi and IoT

Resource Person:

1. Prof. Vaishali Mangrulkar
2. Prof. Pratibha Joshi

Event date: January to March, 2025

Organized for: SE Students

Organized by: Department of Electronics and Telecommunication

Target audience (branch & nos.): SE students

Attachments: **1. Photographs (in JPEG/PNG)**

2. Attendance report

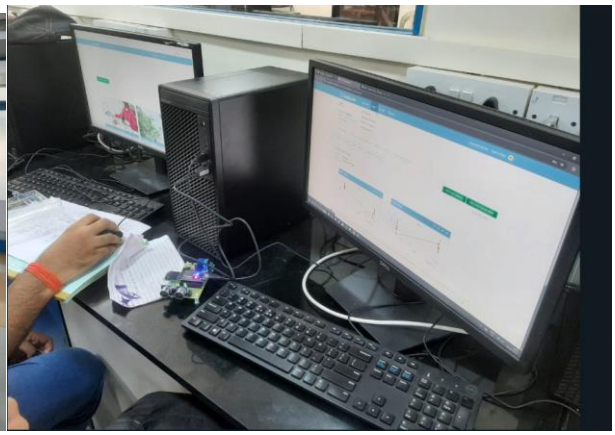
3. Feedback

4. Certificate

Event Description

SDP on Arduino, RPi and IoT was started with session by prof. Vaishali Mangrulkar. During the session students were introduced about Arduino Uno board, RPi board, sensor interfacing and IoT. Initially interfacing done using simulator then interfacing done using actual board and sensors. After completion of value added course students implemented and submitted projects on different titles.

1. **Photographs (in JPEG/PNG)**



2. Attendance report

Attendance Report-FH2025									
Value added course on Introduction to Arduino,Rpi and IoT									
Sr No.	Roll Numb	Name of student	Date/Sign						
			17-01-2025	21-01-2025	22-01-2025	10-02-2025	12-02-2025	14-02-2025	21-03-2025	26-03-2025
1	123A2003	Arya Mishra	A	A	P	P	P	P	P	P
2	123A2005	Devanand Bhosale	A	P	P	P	A	P	A	P
3	123A2006	Anchal Choubey	A	P	P	A	P	P	P	P
4	123A2018	Janmanjay verma	P	P	P	P	A	P	P	P
5	123a2020	Sachin Jha	P	P	A	P	P	P	P	P
6	123A2022	Pranav Joshi	P	A	A	A	P	P	P	P
7	123A2023	Dhruv Joysar	A	P	A	A	P	P	P	P
8	123A2024	Harshal Kadam	P	A	P	P	A	P	P	P
9	123A2029	Sahil Kumbhar	A	P	P	P	A	P	P	P
10	123A2031	Nahush Madhavi	P	P	A	P	P	P	A	A
11	123A2035	Tanmayi Nayak	A	A	P	P	P	P	P	P
12	123A2039	Mansi patil	A	P	P	P	P	A	P	A
13	123A2042	Sudesh Sadashiv Pawar	P	P	P	A	P	P	P	P
14	123A2045	Praveen Shukla	P	P	P	P	P	P	P	P
15	123A2046	Priya Singh parihar	P	P	P	P	P	P	P	P
16	123A2048	Rajlekha Bhowmick	A	P	P	P	P	A	P	A
17	123A2053	Sarthak	A	P	A	P	P	P	A	A
18	123A2059	Mukul Suhas Wani	P	P	P	P	P	P	P	P
19	123A2061	Aryan Yadav	P	A	P	P	A	P	P	A
20	224A2067	Nadar Suraj	P	P	A	P	P	P	A	P

3. Feedback (Analysis)

	Start time	Roll numb	Branch	Your suggestion about SDP contents	Would you like to attend this kind of SDP in future? If Yes, suggest topic.
1	5-22-25 15:35:54	123A2045	EXTC	Great content	Yes
2	5-22-25 15:40:30	29	EXTC	More practical based learning	Yes, other Arduino models
3	5-22-25 15:42:20	123A2059	EXTC	No suggestions	Yes ,antennae and satellite
4	5-22-25 15:50:20	123A2024	EXTC	None	Yes . Verilog or vlsi
5	5-22-25 16:07:55	123A2023	EXTC	include online sessions	yes. computer vision
6	5-22-25 17:43:25	123A2022	EXTC	None	Yes
7	5-22-25 18:09:35	123A2061	EXTC	Excellent	Yes
8	5-28-25 14:31:27	123A2018	EXTC	excellent!	ML
9	5-28-25 14:37:11	123A2042	EXTC	Give the practice lessons	Cyber security
10	5-28-25 14:41:28	123A2035	EXTC	further information in embedded system	-
11	5-28-25 14:54:30	224A2067	EXTC	I was a V.good session	Yes, AI
12	5-28-25 14:59:11	123A2039	EXTC	It should be more clear and Creastaline	Yes
13	5-28-25 15:33:30	123A2048	EXTC	Good	Further into robotics
14	5-28-25 15:41:15	123A2020	EXTC	Maybe FPGAs	Yes

Impact Analysis: In value added course on "**Introduction to Arduino, R-Pi and IoT"** Students were taught basics of Arduino, RPi and IoT, introduction to boards and sensors. Students found this value added course useful and they want to attend such programs in future as well.

Outcome : Students were given project topics at the end of program in a group and they submitted the projects .

Title of projects : Smart weather forcasting system ,Parking system,Digital notice board ,door lock system.