Sandip Foundation's
Sandip Institute of Engineering and Management, Nashik
Department of Computer Engineering
Academic Year 2018-19

Report on Workshop

1. **Event Title:** Workshop on "Robotics: Arduino Based Voice Controlled Robot".
2. **Event Date :** 27th to 29th August 2018.
3. **Event Duration:** 3 days (21 Hours)
4. **Event Venue:** Computer Department Seminar Hall.
5. **Event Resource Person Details:**

   1) Mr. Shubham Gupta

   Product Designer, Techno Skill Education Training LLP.

   2) Mr. Nikhil Patil

   Product Designer, Techno Skill Education Training LLP.

6. **Name of Event Coordinator:** Prof. M V Korade
7. **Expected Audience:** Students of TE and SE(All Branch)
8. **Number of Participants:** 72.
9. **Course Content:**

- Introduction to Robotics
  - Application of Robotics
  - Basics of Electronic components
  - Robot specification and characteristics
  - Application of Robots in industry
- Introduction to Microcontroller & Arduino
  - What is Microcontroller?
  - Difference between Microcontroller and Microprocessor
  - Microcontroller architecture and Interfacing
  - Introduction to Microcontrollers & the Arduino Platform
  - How can we use microcontroller in our circuits.
- Introduction to Open Source platform
  - An Overview of Open Hardware

• Arduino Board Description

- Introduction to Robot Programming

  • Programming Languages- Assembly Vs Embedded 'C'

  • Microcontroller Programming using Embedded 'C'

- Introduction to software tool chain

  • Software Installation

  • Getting started with the Arduino IDE to start writing your first program

  • Writing your First 'Embedded C' Program

- Interfacing of I/O devices with Arduino

  Sensors, Motor, LEDs, Switch, Buzzer,

- LIVE Projects Covered

  • LED Blinking

  • Running LEDs

  • Sand Glass Filling of LEDs

  • Decoration LEDs/ LED Patterns Etc.

  • De-bouncing

  • Buzzer Testing

  • Motor Interfacing

  • HC-05 Interfacing

  • Bluetooth Controlled LEDs

  • Bluetooth Controlled Robot

  • Voice Controlled LEDs

  • Voice Controlled Robot

10. Event Objectives & Outcomes:

Objectives:-

1. Providing opportunity to faculty and UG students of Engineering Colleges or improving their technical skills and knowledge.
2. Providing an opportunity for interaction and mutual exchanges of ideas between interested teachers and trainer working in particular areas of specialization.
3. Providing an opportunity for teachers to familiarize themselves with modern engineering practices including the latest technological advances adopted by industry in view the national needs and relevant technologies.

Outcome:-

1. At the end of the workshop, each participant attending this workshop is expected to have enhanced his/her knowledge on the future of technology –Robotics.

Sandip Foundations

SANDIP INSTITUTE OF ENGINEERING & MANAGEMENT, MAHIRAVANI, NASHIK

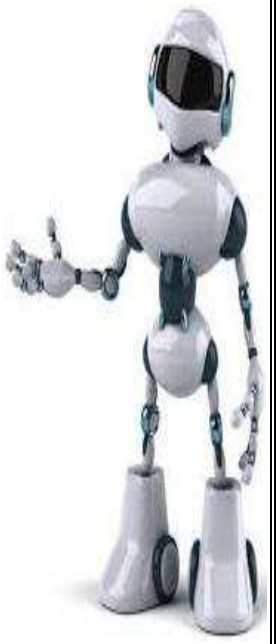
DEPARTMENT OF COMPUTER ENGINEERING

Organizes

3 Days Hands-on Workshop on

ROBOTICS

(Arduino Based Voice Controlled Robot)



-: Dates of Workshop :-
27th to 29th August 2018

-: Registration fees :-
Rs. 900 Per Participant

-: Take Away :-
Hardware Kit (In group of 5 students)

-: For Registration Contact :-
Prof. M V Korade : +91 9545554474
Prof. A C Taskar : +91 9545916824
Prof. P R Kulkarni : +91 7066755750

Robot assembling

Bluetooth Controlled Robot

Voice Controlled Robot

Sarswati Pujan By Resource Person and HOD

Falicitation and First Day Session started

Students are performing Hands on practice while workshop