2023-24

Sr. No.	Event Title & Description	No. of Participants
1.	SDP on MSP430 Connecting Students to Microcontroller Excellence	70
2.	Robotic Workshop 2023	74
3.	Texas Internship- Microcontroller Programming and Applications at Texas Instruments Innovation Lab	27
4.	Electroforge	86

1. Stem Project

Date: 19th October 2023

Resource Person: Ms Shaista Khanam

Ms. Ekta Naik

Ms. Trupti Shah

The IEEE and Texas Committee had launched a collaborative STEM initiative aimed at providing hands-on education in electronics and robotics. The program, which focuses on essential topics such as Ohm's Law, series and parallel resistance, basic Arduino programming, and the introduction of Robotics Systems Learning Kit (RSLK) bots, aims to provide participants with a comprehensive understanding of electrical engineering principles and the diverse applications of robotics. Participants are encouraged to design circuits incorporating series and parallel resistances, and to learn basic Arduino programming through exercises like the "Blink" code. The

project culminates with the introduction of RSLK bots, allowing participants to assemble, program, and test their own robots. The aim is to instill a profound appreciation for STEM disciplines and nurture a passion for future pursuits in these dynamic fields. The initiative aims to provide participants with a comprehensive understanding of electrical engineering principles and the diverse applications of robotics.

Topics Covered:-

1. . LED blinking demonstration

2. Practical exercises on LED blinking with switches

3. Analog reading using POT (Potentiometer)

4. RSLK Bot demonstration.

5. Concluding remarks and vote of thanks from the student coordinator

Photos:-

2. Texas Internship- Microcontroller Programming and Applications at Texas Instruments Innovation Lab

Date: December 12th 2023 to December 22th 2023

Total number of Participants: 27

Resource Person: Ms. Shaista Khanam

                     Ms. Trupti Shah

                     Ms. Ekta Naik

\   Dr. Archana Ekbote

                     Ms. Kanchan Sarmalkar

                     Mr. Rajas Patil

                     Mr. Rahul Kamble

The Texas Instruments Innovation Lab offers a dynamic Microcontroller Programming and Applications internship opportunity, ideal for aspiring engineers and developers. Gain hands-on experience in programming microcontrollers and exploring their applications in innovative projects. Collaborate with industry experts, contribute to cutting-edge research, and sharpen your skills in a supportive environment. Join us in pushing the boundaries of technology and shaping the future of microcontroller applications at Texas Instruments.

Topics Covered

Arduino

1. Fundamentals of Embedded System.

2. Learn Arduino Programming basics.

3. Overview of Arduino Uno: A Microcontroller with an 8-bit Architecture.

4. Interface Various Peripherals Inside the Arduino Microcontroller.

5. Interface Various Display Units with Arduino.

6. Interface Input Units with Arduino (Buttons).

7. Control Actuator with Arduino (DC MOTORS).

8. Develop Wireless Communication with Arduino.

Nodemcu:

1. Learn all about nodemcu.

2. Interface temperature and humidity sensor.

3. Develop IoT Applications with nodemcu.

ESP32:

1. Overview of ESP32.

2. Interfacing with GSM module (4G LTE SIM A7670).

3. Development using BLYNK cloud mobile App.

4. Development of IoT-based Application using ESP32 and mobile App.

RSLK Robot:

1. Introduction to Texas Instruments Robotics Systems Learning (RSLK)kit.

2. Controlling RSLK for different directions and speed.

3. Obstacle Avoidance Robot.

Photos:-

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Dec 13, 2023 16:06

3." Electroforge" The Robotics Workshop

Date: 15ᵗʰ March to 17ᵗʰ March 2024

Total number of Participants: 86

Resource Person: Ms. Shaista Khanam

                         Ms. Trupti Shah

                         Ms. Ekta Naik

\   Mr. Mukund kavekar

Immerse yourself in the exciting world of robotics at our comprehensive workshop! Designed for enthusiasts of all levels, this hands-on experience covers key concepts in robotics, from basic mechanics to advanced programming. Work in teams to build and program your robots, tackling challenges that enhance problem-solving and critical-thinking skills. Engage with industry professionals, explore emerging technologies, and leave equipped with the knowledge and confidence to embark on your robotics projects.

Topics Covered

1. LED, RGB, POTENTIOMETER, SWITCH, BRIGHTNESS ADJUSTMENT USING ARDUINO.

2. ULTRASONIC SENSOR.

3. IR SENSOR.

4.DHT11.

5. MOTOR FORWARD/ REVERSE.

6. MOTOR LEFT /RIGHT.

7. MAKING PATTERNS USING BOT.

8. CONTROLLING LED USING WEB-BASED APP.

9. CONTROLLING BOT USING WEB-BASED APP.

10. Displaying real-time data on the web using the dht11 sensor.

11. Line following robot.

Photos:-

Vasai-Virar, Maharashtra, India
Milap Building, Navghar, 9RMH+MC6, Vasai Station Rd, opposite State Bank Of India,
Shastri Nagar, Vishal Nagar, Vasai West, Vasai-Virar, Navghar-Manikpur, Maharashtra
401202, India
Lat 19.384039°
Long 72.828543°
15/03/24 03:05 PM GMT +05:30

Vasai-Virar, Maharashtra, India
Milap Building, Navghar, 9RMH+MC6, Vasai Station Rd, opposite State Bank Of India, Shastri Nagar, Vishal Nagar, Vasai West, Vasai-Virar, Navghar-Manikpur, Maharashtra 401202, India
Lat 19.384021°
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