

# **SIES Graduate School of Technology**

## **Department of Electronics and Telecommunications**

### **Presents**

Internship on “Embedded System Design using Arduino”  
16th to 19th December 2019, NaviMumbai, 9.30 am to 4.00 pm

#### **Objectives**

- To develop the background knowledge and core expertise of an embedded system design.
- Introduction to Arduino Board.
- To know the importance of different peripheral devices and their interfacing to microcontrollers.
- To know the sensor interfacing and its programming.
- To write C/C++ language programs for Arduino board for various applications.
- To know the working of different sensors and their use in an embedded systems

#### **Course Contents**

- Arduino Board and its programming via Arduino IDE
- Working principle and interfacing of,
- Seven sensors (LDR, Ultrasonic, Gas Sensor, Proximity Sensor, Temperature, Humidity, Accelerometer)
- Two wireless modules for data transmission (Bluetooth, Wifi module)
- Two actuators (Servo Motor, DC Motor)
- Three display devices (Seven Segment, 16X2 LCD, LED)
- Concept of Internet of Things (IoT)
- Project Designing using Arduino Board, Sensor and Display Devices

#### **List of mini projects**

1. Sensor data monitoring on mobile phone using hc05
2. Automatic light control using LDR sensor
3. Led on/off control using mobile Bluetooth
4. Alcohol detection and message alert using alcohol sensor
5. Distance measurement using ultrasonic sensor