ONE DAY WORKSHOP ON ARDUINO JOINTLY ORGANIZED BY ISTE AND VPMP POLYTECHNIC, GANDHINAGAR

About workshop:

Arduino refers to an open source electronics platformor board and the software used to program it. Aurduino can be used to develop interactive objects, taking inputs from a variety of switches or sensors and controlling a variety of lights, motor and other physical Outputs. Arduino projects can be stand alone or they can communicate with software running on the computer.

DATE AND TIME: 8th August 2016 (Monday)

Venue: VPMP POLYTECHNIC, Sector -15, Gandhinagar.

Who can attend this workshop?

Students from engineering colleges who have interest in Arduino Micro-Controller and those who are doing research in embedded systems.

Registration:

Prior registration for the workshop is mandatory.

Last date for the registration is: 5th August 2016

(Tea Breakfast and lunch will be provided).

Workshop topics:

➢ **Getting Started with Arduino**.
   Arduino is an open-source prototyping platform based on easy-to-use hardware and software. Arduino boards are able to read inputs - light on a sensor, a finger on a button, or a Twitter message - and turn it into an output - activating a motor, turning on an LED, publishing something online.

➢ **Introduction to Arduino Platform & Software**
   The Arduino Integrated Development Environment - or Arduino Software (IDE) - contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions and a series of menus. It connects to the Arduino and Genuino hardware to upload programs and communicate with them.

➢ **LED Interfacing.**
   Most Arduino boards already have an LED attached to pin 13 on the board itself. If you run this example with no hardware attached, you should see that LED blink.

➢ **LCD Interfacing.**
   The Liquid Crystal Library allows you to control LCD displays that are compatible with the Hitachi HD44780 driver. There are many of them out there, and you can usually tell them by the 16-pin interface.

➢ **Different Sensor Interfacing.**

A simple temperature sensor using one LM35 Precision Temperature Sensor and Arduino. The circuit will send serial information about the temperature that you can use on your computer.

➢ **Seven Segment Interfacing.**

Seven Segment Highly flexible library for using Arduino to drive a seven segment display directly at the output pins of an Arduino or through transistors. Key words: Arbitrary number of digits, decimal points, colon, apostrophe, common anode, common cathode, brightness control (adjustable duty cycle), display text, use interrupt timers.

➢ **GSM / GPS Interfacing.**

There are different kinds of GSM modules available in market. We are using the most popular module based on Simcom SIM900 and Arduino Uno for this tutorial. Interfacing a GSM module to Arduino is pretty simple. You only need to make 3 connections between the gsm module and arduino.

➢ **Relay Interfacing**

A Relay is an electrically operated switch. Many relays use an electromagnet to mechanically operate the switch and provide electrical isolation between two circuits. In this project there is no real need to isolate one circuit from the other, but we will use an Arduino UNO to control the relay. We will develop a simple circuit to demonstrate and distinguish between the NO (Normally open) and NC (Normally closed) terminals of the relay.

➢ **DC Motor Interfacing.**

IN1 pin of the L298 IC is connected to pin 8 of the Arduino while IN2 is connected to pin 9. These two digital pins of Arduino control the direction of the motor. The EN A pin of IC is connected to the PWM pin 2 of Arduino. This will control the speed of the motor.

Certificate will be issued.

WORKSHOP FEE: 350 RS.