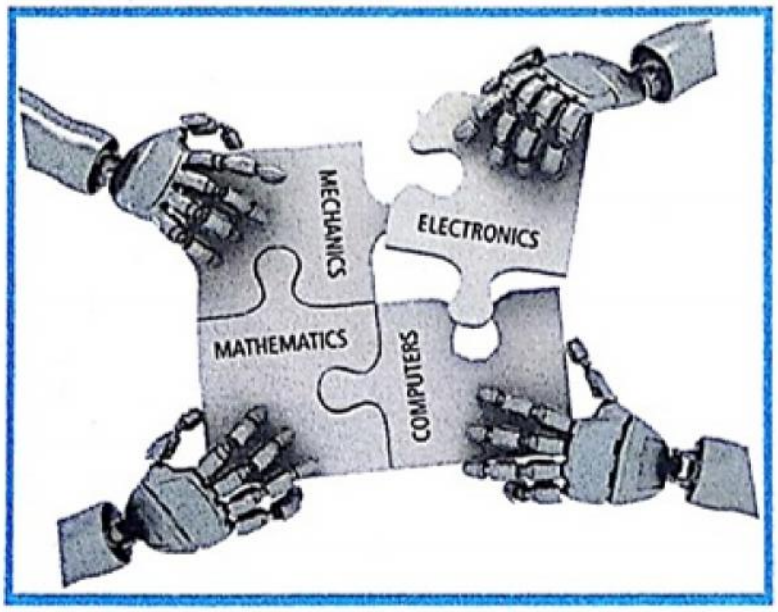
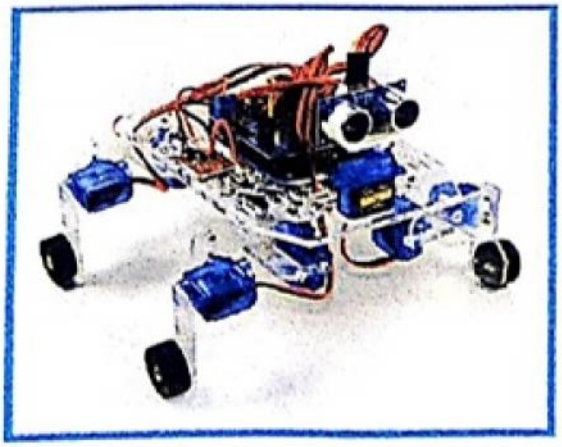
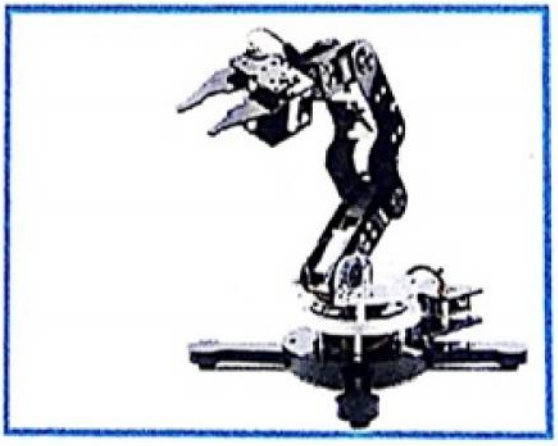
VORTON
TECH SOLUTIONS

Robotics & Embedded Training For Colleges







Vorton Techsolutions Pvt. Ltd.
Hyderabad

Arduino – Sensor Integration (Basics) – LEVEL 1

Day 1

1) Introduction to **Arduino Board** and its basic Architecture.
2) Introduction to all the electronics components including sensors.
3) Blinking of a single **LED** at time intervals.
4) Lighting of **4 LEDs.**
5) **Pattern generation** using LEDs.
6) **Switch** Integration with Arduino.
7) Using **PWM(Pulse Width Modulation).**
8) Using **Potentiometer** controlling the intensity of LEDs (ADC).

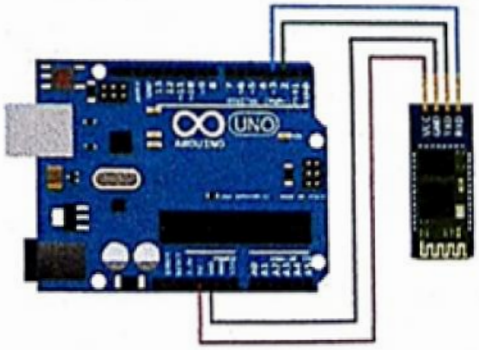
Day 2

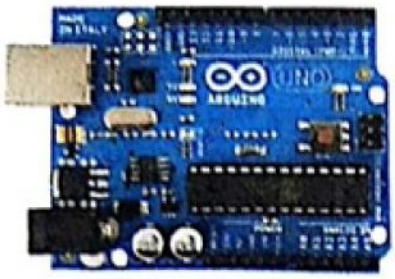
9) Introduction to Robotics
10) **LDR** and **Buzzer** Interfacing with Arduino (Automatic Street light).
11) **7 Segment display** integration with Arduino.
12) **16x2 LCD Display**.
13) Integration **Temperature sensor** with **LCD.**
14) **Ultrasonic Sensor**.
15) **L293D Motor Driver.**
16) Integration of **Relay** with Arduino for heavy loads.
17) Assembly and implementation of an **"Obstacle Avoiding Robot".**

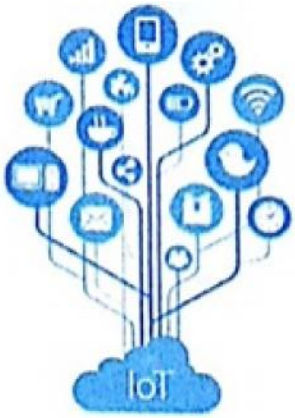
Arduino – Bluetooth Control Using Android App – LEVEL 2

Day 1

1) Introduction to **Arduino Board** and its basic Architecture
2) Introduction to programming concept for Arduino
3) Integration with **Bluetooth sensor HC-05**
4) **Motor driver** integration with motors
5) Assembly of robot with **HC-05**
6) Controlling of robot through **Mobile App**
7) Small Event for all teams







Robotics and Embedded Workshop

Vorton Techsolutions Pvt. Ltd is glad to present to you a teaching plan on "**Arduino**" and it's integration with various sensors. Having the **knowledge of newer technologies** like **Arduino helps one to go cross domain**. With tool such as Arduino there are limitless possibilities to learning and implementing. The main emphasis will be laid on **programming, interfacing and implementing Arduino** technology to implement **various projects.**

Why Arduino?

Tinkering with electronics is something everyone really like to do – in theory at least – but the realities of time constraints, lack of knowledge and few rewards inevitably prevent from making a start. It's just too difficult. Everyone like dissecting broken gadgets, but never do anything with the bits they find other than stash them away.

The **Arduino** is the answer to all that, and frankly anything that can be considered fun while learning is a truly revolutionary device. Over the years Arduino has been the brain of thousands of projects, from everyday objects to complex scientific instruments. An easy tool for fast prototyping, aimed at students without a background in electronics and programming.

How?

The workshop will cover all the basic and fundamental concepts required to start working with Arduino. The schedule has been designed for beginners. Programming and electronics will be taught from the elementary level.