Arduino and Robotics

Planeter Ltd
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Duration: 10 classes
Fee: BDT 3000/-
Class time: 2 hours
Online: Saturday, Sunday, Tuesday
Time: 8.30 pm
Onsite: Thursday, Friday, Saturday
Time: 6 pm (Adjustable upon discussion)

- Introduction to Arduino boards, Arduino IDE and Programming
- Introducing basic components: Resistor, capacitor, rectifier diode, zener diode, LED etc and their use
- What is sensor, Classifications of sensors, Different types of sensors, how to make a light sensor circuit using voltage divider rule and operational amplifiers.
- What is motor, how to choose a motor for a project, different types of motors, dc motors driving, servo motor driving, driving the motors clockwise, anticlockwise, slow, fast etc. , how to choose a motorcontroller, using high current motor drivers

- Making a switching circuit using relay. Controlling the bulb.

- How to make a 5V power supplier, different types of batteries, how to choose a battery and its rating for a project, transformers for voltage conversions, AC to DC switching circuits using relays

- Peripheral features Pulse Width Modulation and Analog to Digital Conversions, USART with practical experiences

- Interfacing LCD display. Program the displays and experience the outcome practically.

- Establish a wireless communication network using Bluetooth modules.

- Input programming, making a Line follower robot. Collecting data from IR sensors/ LDR sensors and using them to take decision on how to drive the motors to keep the robot tracking lines.

- Making an android app controlled robot using Bluetooth module HC05

- Designing a Printed Circuit Board using Proteus ARES software. PCB making procedure.

- Making an obstacle avoider robot using ultrasonic sound sensor