

ROBOTICS PROGRAMMING

COURSE DETAILS

Introduction

The course involves making of a robot from scratch. During the workshop you will be exposed to programming in 8051 Microcontroller. At the end of the workshop you would have constructed your own robot. The workshop clears concepts related to embedded systems, artificial intelligence, robotics and automation. Students interested in participating in Robotics competition always join the workshop.

Contents

Module 1

- Introduction to Robotics
 - Industry Scenario
 - Robotic Arm
- Different types of motors
 - DC Motor
 - Servo Motor
 - Stepper Motor
 - Characteristics and comparison of motors
- Different types of Drives
 - Car type steering
 - H Bridge Driving
 - Stepper Driving circuits
 - Differential Drives
- Legged Robots
 - 6 legged robots
 - 4 legged robots
 - 2 legged robots
- Revising 8051 Microcontroller

Project Work: Programming 8051 using Keil C

Module 2

- Revising 8051 Microcontroller continued
- Interfacing with DC geared motor
- Controlling Speed and direction of the motor
- Calibrating the IR sensor

Project Work: Interfacing with IR and DC geared motor using Keil C

Module 3

- Mechanical Construction of Robot
- Simple PC controlled Robot
- Simple obstacle avoiding Robot
- An example of self learning robot and Artificial Intelligence

Project Work:

- Mechanical Construction of Robot
- Simple PC controlled Robot
- Simple obstacle avoiding Robot

Module 4

- Creating a line following robot
- Testing for various cases

Project Work: Line following Robot

Duration: 24 hours of supervised training

Prerequisites: Basic C programming

Investment

Investment Includes

- Cost of Training Program
- Training Material and Educational CD's
- Cost of Project
- Cost of Certificate

An Investment in Knowledge Pays Best Returns. Benjmin Franklin

Corporate Office:

TICO INSTITUTE OF EMBEDDED TECHNOLOGY

104, Jyoti Shikhar, Distt. Centre, Janakpuri,

New Delhi-58, Ph. No. - 011-25571050, 66405606

MOBILE - 9899795696. Email - info@tico-india.com

Noida branch:

H-79, Sector 22 , Noida U.P.

Mobile - 9899032701 Email - info@tico-india.com