X-bee Controlled Robot Course Content

Day 1

Session 1:

Introduction to Microcontrollers

- What is Microcontroller?
- Difference between Microcontroller and Microprocessor.
- Microcontroller Architecture and Interfacing.
- How can we use Microcontroller in our Own Circuits?

Introduction to Motor Controlling Circuit:

- Introduction to Motor
- Different Types of Motor
- Difference between DC motor and DC geared motor
- Motor Controlling Circuit

Introduction to Programming Languages

- Programming Languages- Assembly Vs Embedded C.
- Microcontroller Programming using 'Embedded C'.

Session 2:

Installation of Software and Debugging

- Writing your First 'Embedded C' Program in AVR Studio.
- Program Compilation and Debugging.
- Loading Compiled 'C' Program into Microcontroller using

Day 2

Session 1:

Introduction to Wireless Communication

- Discussion on various wireless modules
- Working of wireless communication
- Types of X-Bee
- Application of X-Bee
- Interfacing X-Bee with X-Bee Trainer Board
- How to use XTU software
- Configuration of X-Bee
- Real Time Projects based on X-Bee

Introduction to USART

- Types of Communication
- Modes of Communication
- Types of Communication Protocol
- Difference between various Communication Protocol
- USART Vs UART
- Programming USART

Session 2:

- Writing and burning x-bee Controlled robot Program
- Testing and debugging x-bee Controlled robot Program