

Hand gesture Course Content

About Gesture Controlled Robotics (based Accelerometer sensor) Workshop A Gesture Controlled robotics is a kind of robot which can be controlled by your hand gestures not by old buttons. You just need to wear a small transmitting device in your hand which included an acceleration meter. This will transmit an appropriate command to the robot so that it can do whatever we want. The transmitting device included a comparator IC for analog to digital conversion and an encoder IC(HT12E) which is use to encode the four bit data and then it will transmit by an RF Transmitter module.

Session 1:

- Introduction to Robotics
- What is Robot - In Depth Explanation
- Various Type of Robots
- Robots Applications in Different Domain
- Components used in Robotics
- Accelerometer
- Future Scope for Robotics

Session 2:

- Basic Electronics
- Resistor
- Various Type of Robots
- Capacitor
- Diode
- Transistor
- Sensors used
- Interfacing of Sensors

Session 3:

- Working of a Microcontroller
- Structure of a Microcontroller
- Development Board Schematic
- Explaining various components on Development Board
- Introduction to Embedded c
- Writing first Embedded program

Session 4:

- What is Accelerometer
- Difference between Accelerometer and Gyro Sensor
- Application of Accelerometer
- H-Bridge motor Driver/controller interfacing
- Directional control of the motor
- Working of a DC Motor

Session 5:

- Assembling of the Robotics Kits
- Software Installation

Session 6:

- Assembling Gesture Control Robotics Kit
- Writing and Flashing the code into microcontroller board
- Programming the Robot

Session 7:

- Troubleshooting
- Testing of final Gesture control Robot