

DIY Robotics

DIY Stands for DO IT YOURSELF. It is prototype of Robot that can be operated according to the user requirement. Infact you can make your own creative model using the material which is easily available at your home. In future you can modify your model by adding some extra features. It will help you out to select your career in field of Robotics.

Introduction to Robotics

Introduction of Basics of Electronic Components

- Resistor
- Capacitor
- Diode
- Transistor
- Fundamental Electrical Concepts
- Difference between Electrical and Electronics

Introduction and Mechanical structure design

Introduction of circuit designing on “Breadboard”

Robot Locomotion System and Anatomy

- Actuators
- Types of Actuators
- Driving Mechanism
- Speed Control

Motors and Controlling Circuit

- Introduction to Motor
- Different Types of Motor
- Difference between DC motor and DC geared motor
- Use of Motors in Robotics
- Motors and Controlling Circuit
- Interfacing of Motors

Introduction to Transducer

- What is a Sensor
- Different Types of Sensor
- Use of Sensor in Robotics
- Working of Sensor
- Operational Amplifier
- Integrating Circuit
- Interfacing of Sensors

- Working of IR Sensor
- Working of Sound Sensor

Switches

- Types of Switches
- Operation
- Application of different Switches

Detailed Wireless Technology

- What is Wireless Technology
- Advantages of using Wireless Technology
- Uses of Wireless Technology
- Working of Rx and Tx

Introduction to DTMF Module

- Introduction to communication
- Introduction to communication using DTMF.
- Introduction to Data Transmission using DTMF module
- Real-Time Working Project

Working Project

- Mobile Control Robot

Discussion on Different Algorithms

- Line Following Robot Algorithms
- Wall Following Robot Algorithm
- Sound Operated Robot Algorithm
- Light Searching Robot Algorithm

Query Session

After completing workshop there will be a query session which will help students to clear all their doubts.

Competition

After the hand on theory and practical experience from the workshop, Competition will be conducted for the participants.

Certificate Distribution

Participants will get Participation Certificate and winners will get winning Certificates.