

Senior Robotics

Technology	Duration	Project Base
Senior Robotics	7 Sessions 2:00 hr/ Sessions	Software

What is Robot?

- Introduction of Robot
- Types of Robot
- Future of Robot
- Industrial applications
- Domestic applications
- Commercial applications

Basic of electronics

- Resistor
- Capacitor
- Switches
- Diode

Microprocessor & Microcontroller

- Difference between Microprocessor and Microcontroller
- Applications of Microprocessor and Microcontroller.
- Introduction of Arduino Boards
- Various Microcontroller Arduino Board

Introduction of TINKERCAD

- Basic Component in Tinker cad
- Online Circuit Designing
- Circuit design of basic components.
- Circuit design with Microcontroller and sensors.



Fundamentals of Arduino Uno

- Introduction to Arduino Hardware
- Pin description
- Input and output ports
- Programming
- Basic structure and commands
- Function and variables
- Conditional and controlled instructions

Sensor interfacing.

- Introduction to sensors
- Different types of sensors
- Ultrasonic sensor
- Temperature sensor

Motors and Actuators interfacing.

- Motor mechanism: and how its work
- Motor Driver L293D IC
- Interfacing with Arduino Nano
- Types of motor
- DC geared motor

Projects Covered

- LED and RGB led Control system
- Distance measurement System
- Reverse Parking System
- Fire Alarming System
- Visitor Counter System
- Automatic Room Light
- Covid -19 project (social distancing)
- Automatic Room temp control
- Home security system with alarm
- Home Automation.