



ROBOTICS

Course Content



hello@entrench.in



9599051728



entrench.in

COURSE CONTENT

ABOUT US

Entrench Electronics Pvt. Ltd. is an emerging venture working towards the goal of changing conventional ways and imparting education to the College/School students.

ROBOTICS

Robots is an intelligence machine, capable to perform any operation without any human assistance, and are able to avoid situations that are harmful to themselves or people and property. It is widely used in automobile industry to assemble vehicles.

COURSE CONTENT

Day 1 (Session1)

Introduction to Robotics

Basics of Robot Electronics:

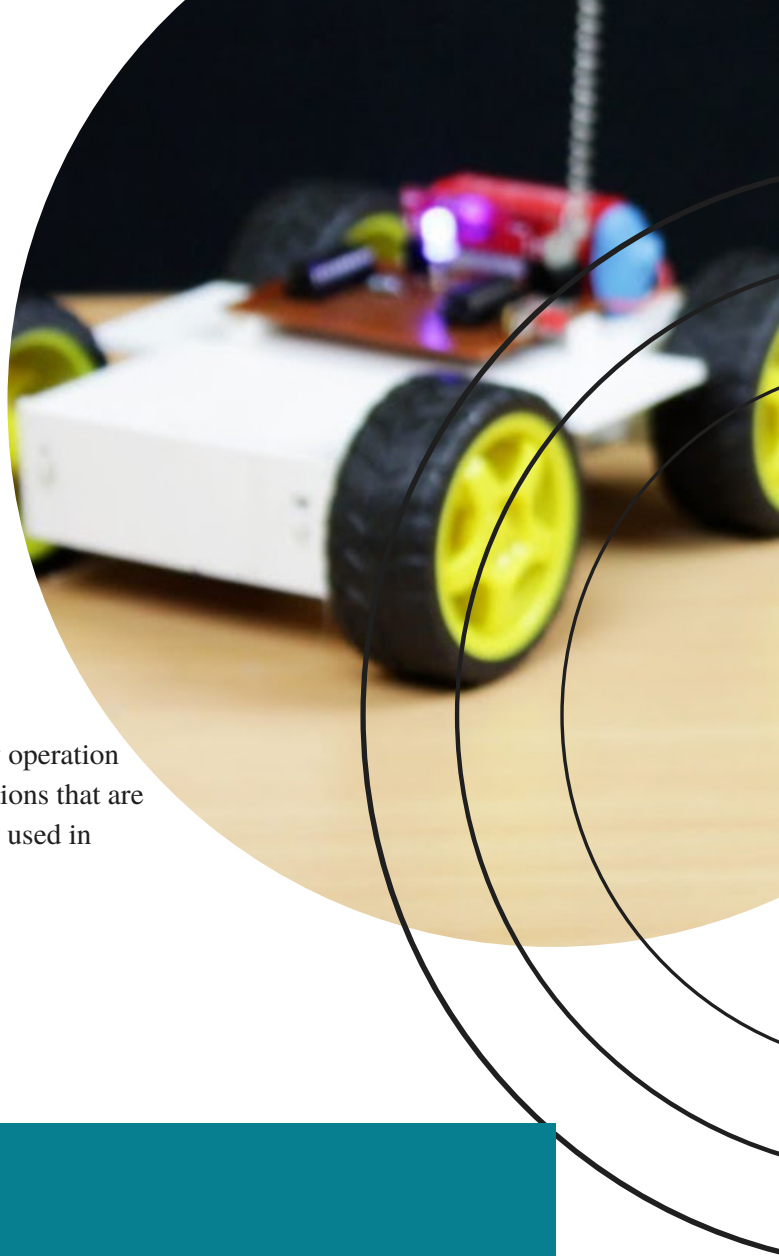
- Basic Electronic Components
- Fundamental Electrical Concepts
- Sensors
- Operational Amplifier
- Integrating Circuit
- Interfacing of Sensors
- Motors and Controlling Circuit
- Interfacing of Motors

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 Programming Languages

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



COURSE CONTENT

Day-1 (Session-2)

Discussion on Different Algorithms

- Line Following Robot Algorithms
- Edge Avoiding Robot Algorithm
- Obstacle Avoider Robot Algorithm
- Wall Following Robot Algorithm
- Sound Operated Robot Algorithm
- Light Searching Robot Algorithm

Installation of Software and Debugging

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

Day-2 (Session-3)

Projects

- Assembling kit
- Generating different LED Patterns
- Development of Line Following Robot
- Development of Edge Avoiding Robot

Day-2 (Session-4)

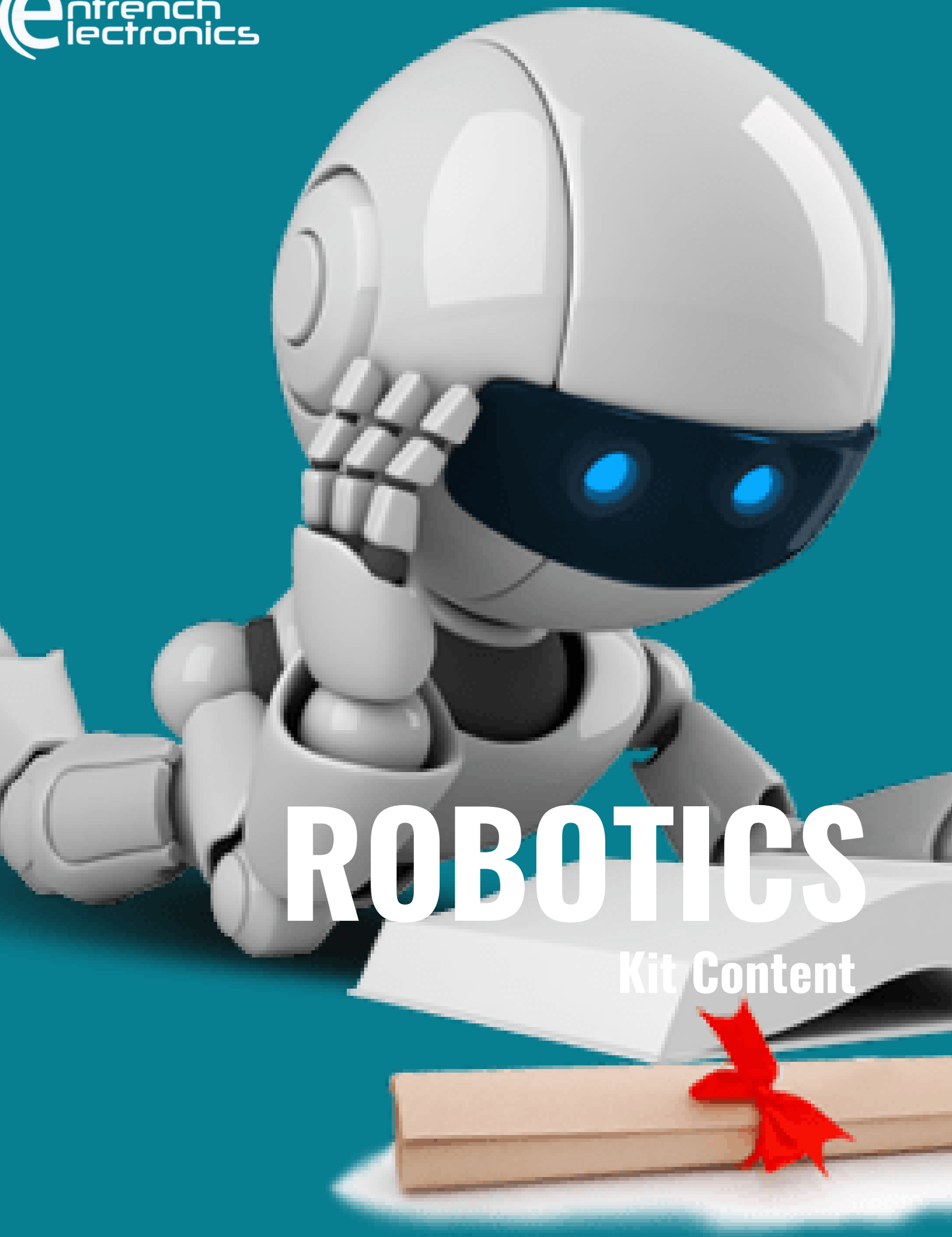
Query Session

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

Certificate Distribution

Participants will get Participation Certificate.





ROBOTICS

Kit Content



KIT CONTENT

ABOUT US

Entrench Electronics Pvt. Ltd. is an emerging venture working towards the goal of changing conventional ways and imparting education to the College/School students.

ROBOTICS

Robots is an intelligence machine, capable to perform any operation without any human assistance, and are able to avoid situations that are harmful to themselves or people and property. It is widely used in automobile industry to assemble vehicles.

KIT CONTENT

- 1 AVR Board with inbuilt Bootloader
- 1 Chassis
- 1 USB Cable (A to B type)
- 1 pair BO Wheels
- 1 pair BO Motors
- 1 Pair Clamps
- 1 Caster Wheel
- 1 Pair IR Sensor
- 1 Screw Driver
- 1 Screw Nut Packet
- Connecting Wires

Note: Students need to carry 4 AA Size or two 9V Battery.

