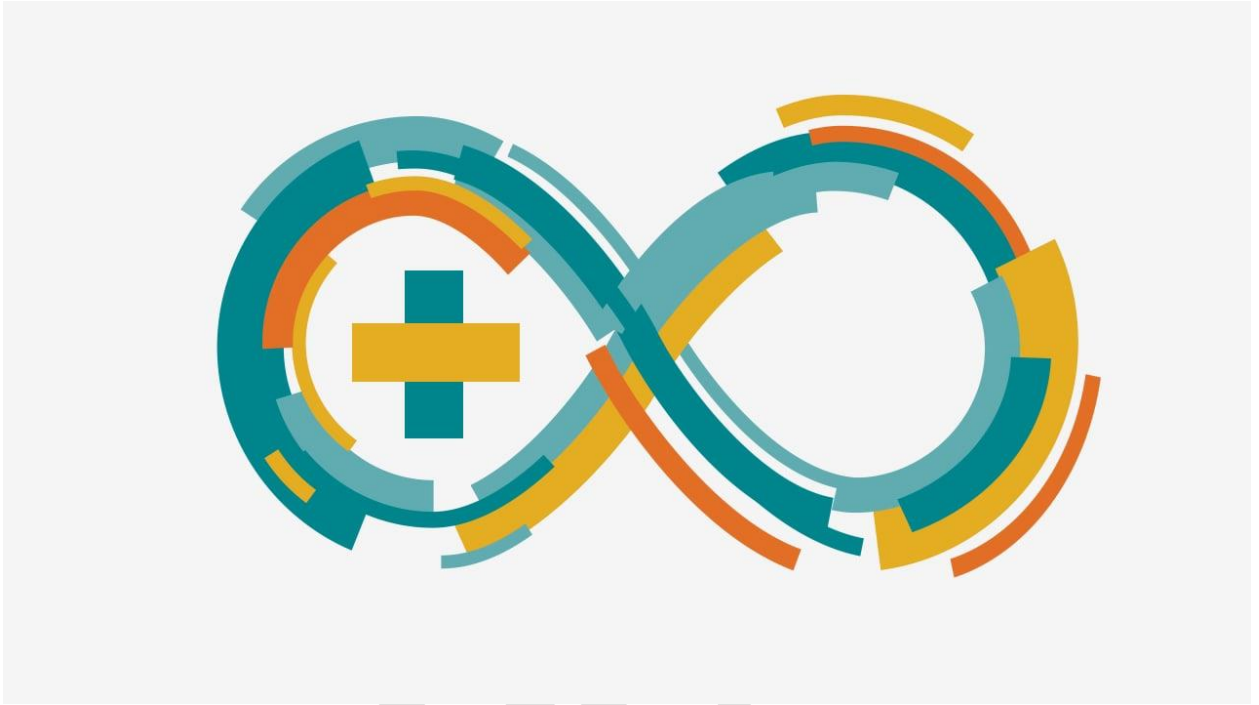# The Robo-King

Course Details:

This course offers with the ability to master the technology of Robotics from scratch. The course dives deeper into the field giving you a proper understanding of all things that go into making a Robot. We start off with Arduino which will be powered by Python so that learning is easier and fun. At Technol we believe in creating robots that will solve many problems and you can be their king.

We cover the following topics under **The Robo-King** module:

technol.ltd@gmail.com   www.technolsolutions.info

Module 1: Introduction and Familiarization

☐ Introduction to Arduino

☐ Download and Installation of Arduino IDE

☐ Setup your computer to use Arduino

☐ Arduino IDE and sketch overview

Module 2: Basics

☐ Understanding of different electronic elements like Resistor, Capacitor, Transistor, Switches etc.

☐ Understanding & using Variables

☐ Implementation of different built-in Keywords

☐ digitalRead()

☐ digitalWrite()

☐ analogRead()

☐ analogWrite()

☐ Using delay function

Module 3: LED's (Light Emitting Diodes)

☐ Basics of LED

☐ Blinking of LEDs

☐ Fading of LED

☐ Blinking of EVEN and ODD states of LEDs

- Generating different patterns on LEDs

- Traffic Light System

Module 4: Serial Monitoring

- Controlling of LEDs from your Computer

- Reading analog and digital inputs

Module 5: Digital Inputs

- Controlling LED using Push button

- Switching ON a buzzer

- Switching ON a relay

Module 6: Analog Inputs

- Interfacing DC motors

- Controlling the direction of dc motors

- Interfacing different sensors

Module 7: LCD Displays

- Wiring of LCD screen with Arduino

- Displaying a message in LCD screen

- Scrolling of Text

- Displaying room temperature using LM 35 temperature sensor

technol.ltd@gmail.com   www.technolsolutions.info

Module 8: Infrared Sensors (IR) and LDR

- ☐ Introduction of IR and LDR sensor

- ☐ Working of IR and LDR sensor

- ☐ Line Follower Concepts

- ☐ IR sensor based Projects

- ☐ Light searching robot concepts

- ☐ Applications

Module 9: Ultrasonic Sensor

- ☐ Introduction of Ultrasonic sensor

- ☐ Working of ultrasonic sensor

- ☐ Distance Measurement Using Ultrasonic Sensor

- ☐ Water level Controller Concepts

- ☐ Obstacle Avoiding Robot car concepts

- ☐ Applications

Module 10: Bluetooth HC-05 Module

- ☐ Introduction to HC-05

- ☐ Interfacing HC-05 with Arduino

- ☐ Applications

Module 11: Projects Ideas

- Smart Dustbin Concept

- Mobile Controlled Robots Ideas

- Controlling Robot Vehicle using Voice Commands

- Never Falling (Edge Detection) Robot

- Temperature Controlled Fans

24x7 query solving support through whatsapp groups

Internship Opportunity