SIGMA

ARDUINO IoT TRAINER
MODEL-ARDUINOIOT100

This trainer has been designed with a view to provide theoretical & practical knowledge of Internet of Things - IoT using Arduino and Internet

SPECIFICATIONS

1. Arduino Uno
2. Arduino Shield
3. 20 X 4 LCD Display-JHD204A
4. Audio Sensor
5. IR Sensor
6. Light Sensor
7. DHT11 Sensor
8. Pressure Sensor - BMP180
9. Temperature sensor - LM35
10. Gas Sensor
11. PIR Sensor
12. Reed Sw Sensor
13. Audio Buzzer
14. Stepper Motor with Driver PCB and Fan Scale
15. Servo Motor
16. Seven Segment Display
17. 1 Channel Relay Board
18. Transistor -2N2222
19. Red, Green and Yellow LEDs
20. IR LED
21. 220E,10K,33K - Resistors
22. Capacitor - 0.1uf
23. Diode-1N4007
24. Micro Push Switches - Square
25. 10K POT
26. Arduino Uno Power Supply 5V 2A
27. Female to Female Cable – 30 Nos.

4.   The complete circuit diagram should be is screen printed on component side of the PCB with circuit and Parts at the same place. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement. The acrylic cover is fitted on PCB to safeguard parts. It should work on 230 V AC Supply.

5.   Printed Manuals with softcopy on Pen Drive is to be supplied.

6.   Online manual and Library for Arduino Books, Charts, PPT, and Software is to be provided.

7.   Minimum 100 Experiments with .ino code files for Basic, Audio Visual, Motor Control, Sensor Interfacing and Data acquisition, Web Server Internet, SD Card are to be provided with Kit.

8.   **Accessories**

1.	Practical Manual	:	1 No.
2.	Required USB Cable	:	1 No.
3.	Jumper wires	:	20 Nos.
4.	Software and Driver CD	:	1 No.
5.	E-Books for Arduino Subject	:	10 Nos. in PDF Format
6.	Mp4 Video Class for Arduino Subject	:	40 Nos

EXPERIMENTS

1. To understand theory and working of Arduino Uno.
2. To understand USB Interface for Arduino Uno.
3. To understand Arduino Shield
4. To understand 20 x 4 LCD Display.
5. Reed Sw Sensor
6. Audio Sensor
7. Infrared Sensor
8. Ambient Light Sensor - LDR Light Sensor
9. Humidity - DHT11 Sensor
10. Pressure - BMP180 Sensor
11. Temperature - LM 35 Sensor
12. Air Quality Sensor –Gas Sensor-M Q 135
13. PIR Sensor
14. To understand Active Audio Buzzer.
15. To understand 1 Channel Relay Board.
16. To understand fundamental of Stepper motor and its driver.
17. To understand fundamental of Servo motor.
18. To make Led blink.
19. To demonstrate Push Button functionally by toggling LED.
20. To control basic LED using 1 Channel Relay Board.
21. To use Audio Buzzer for output signal alarm.
22. To carry out Traffic signal control.
23. To carry out Lift elevator control.
24. To detect magnet using Reed Sw Sensor.
25. To detect Sound using Audio Sensor.
26. To transmit and receive signal using Infrared Sensor.
27. To measure Light using LDR Light Sensor.
28. To measure Humidity using DHT11 Sensor.
29. To measure Pressure using BMP180 Pressure Sensor.
30. To measure Air Quality using Gas Sensor-Smoke Sensor.
31. To measure Temperature using LM35 Sensor.
32. To detect motion using PIR Sensor.
33. To operate Stepper Motor control.
34. To operate Servo Motor.
35. To receive sensor data on Mobile using Mobile App
37. To receive sensor data on website using IOT Server
38. To send sensor data from 1st Arduino Board and receive it in 2nd Arduino Board through IOT Server
39. To control bulb remotely through Mobile App showing Smart Home Application
40. To control bulb remotely through Website showing Smart Home Application
41. To control Servo Motor remotely through Website showing Smart Home Application