



RASPBERRY PI IOT TRAINER

MODEL - RASPBERRYIOT100

This trainer has been designed with a view to provide practical and experimental knowledge of Raspberry Pi.



SPECIFICATIONS

1. Raspberry Pi 3
2. 16 GB Memory Card
3. 20 X 4 LCD Display
4. Reed Switch Sensor
5. Audio Sensor
6. Infrared Sensor
7. Light Sensor
8. Humidity Sensor.
9. Pressure Sensor.
10. Temperature Sensor.
11. Gas Sensor
12. PIR Sensor
13. Stepper Motor
14. Servo Motor
15. Single Channel Relay
16. Audio Buzzer
17. Push Keys
18. Potentiometer
19. Transistor – 2N2222A
20. Different Resistors
21. Different Color LEDs
22. Diode 1N4007
23. USB Cable for Raspberry
24. Power Supply 5V 2A
25. Ethernet cable
26. Male Female Connectors - 30 Nos

Sigma Trainers and Kits
E-113, Jai Ambe Nagar,
Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
INDIA.

Phone(O): +91-79-26852427/ 26850829
Phone(F): +91-79-26767648/ 26767512
Mobile : +91-9824001168
Email : sales@sigmatrainers.com
: drluhar@gmail.com
Web : www.sigmatrainers.com

Dealer:-

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 Raspberry Books, Charts, PPT, and Software is to be provided.
7. Minimum 50 Experiments with .py 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 | : 2 No. |
| 3. Jumper wires | : 30 Nos. |
| 4. IOT Cloud Dedicated Server | : 1 No. |
| 5. E-Books for Raspberry Subject | : 10 Nos. in PDF Format |
| 6. Mp4 Video Class for Raspberry Subject | : 40 Nos |

EXPERIMENTS

1. To understand theory and working of Raspberry PI 3.
2. To understand Operating System for Raspberry PI.3.
3. To understand Communication Protocols-UART,I2C,SPI,and RS485.
4. To understand USB Interface for Raspberry PI.3.
5. To understand Ethernet Cable Interface for Raspberry PI.3.
6. To understand micro SD Card Interface for Raspberry PI.3.
7. To understand 20 x 4 LCD Display.
8. Reed Switch – Magnetic Sensor
9. Audio Sensor
10. Infrared Sensor
11. Ambient Light Sensor - LDR Light Sensor
12. Humidity - DHT11 Sensor
13. Pressure – BMP180 Sensor
14. Temperature - LM 35 Sensor
15. Gas Sensor - M Q 135
16. PIR Sensor
17. To understand Active Audio Buzzer.
18. To understand 1 Channel Relay board.
19. To understand fundamental of Stepper motor and its driver.
20. To understand fundamental of Servo motor.
21. How to add .py file in memory card.
22. To connect LCD Display
23. To make LED blink.
24. To transmit and receive signals using Infrared Sensor.
25. To detect Sound using Audio Sensor
26. To detect magnet using Reed Switch Sensor
27. To measure Humidity using Humidity - DHT11 Sensor.
28. To detect Light using LDR Light Sensor.
29. To measure Temperature using Temperature - LM 35 Sensor.
30. To measure Pressure using Pressure – BMP180 Sensor
31. To detect Gas using Gas Sensor
32. To detect motion using PIR Sensor
33. To use Audio buzzer for Output signal Alarm
34. To control 1 Channel Relay.
35. To operate Stepper Motor control
36. To operate Servo Motor
37. To receive sensor data on Mobile using Mobile App
38. To receive sensor data on website using IOT Server
39. To send sensor data from 1st Raspberry Board and receive it in 2nd Raspberry Board through IOT Server
40. To control bulb remotely through Mobile App showing Smart Home Application
41. To control bulb remotely through Website showing Smart Home Application
42. To control Stepper Motor remotely through Website showing Smart Home Application