



RASPBERRY PI MICROCONTROLLER TRAINER

MODEL - RASPBERRY100

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. DC Motor
14. Servo Motor
15. Single Channel Relay
16. Audio Buzzer
17. Breadboard.
18. Push Keys
19. Potentiometer
20. Transistor – 2N2222A
21. Different Resistors
22. Different Color LEDs
23. Diode 1N4007
24. USB Cable for Raspberry
25. Power Supply 5V 2A
26. Ethernet cable
27. Male Female Connectors - 30 Nos

Sigma Trainers and Kits
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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

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| 1. Practical Manual | : 1 No. |
| 2. Required USB Cable | : 2 No. |
| 3. Jumper wires | : 30 Nos. |
| 4. Software and Driver CD | : 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 DC 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 DC Motor control
36. To operate Servo Motor