



IOT LAB TRAINER

MODEL - IOTLAB100

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



SPECIFICATIONS

- Consisting of the Modules
 1. LED bar Module (1No.)
 2. Temperature Sensor Module (1No.)
 3. IR Sensor Module
 4. Audio Buzzer Module (1 No)
 5. IR Sensor Module (1 No.)
 6. Camera Module
 7. X Bee Module
 8. Stepper Motor:- (1 no.)
 9. Traffic Signal Module - 1 No.
 10. Lift Elevator Module (1 No)
 11. Intrusion Detector Module (1 No)
 12. Raspberry Pi 3 (1 No)
 13. Arduino UNO Board (1 No)
 14. USB Cable 1No.
 15. Patch Chords - 25 Nos

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Dealer:-

EXPERIMENTS

1. Study various types of Arduino and install Arduino IDE.
2. Study temperature/humidity sensor. and write a program to monitor temperature/humidity using Arduino.
3. Study and implement RFID using Arduino.
4. Implement MQTT protocol using Arduino.
5. To study and Configure Raspberry Pi.
6. Study and implement Zigbee protocol using Arduino/ Raspberry Pi.
7. To interface Bluetooth with Arduino/ Raspberry Pi and write a program to send the sensor data to smartphone using Bluetooth
8. To interface LED/Buzzer with Arduino/ Raspberry Pi and write a program to turn on LED for 1 seconds after every two seconds.
9. To interface OLED with Arduino/ Raspberry Pi and write a program to print temperature and humidity.
10. To interface motor using relay with Arduino/ Raspberry Pi and write a program to turn on the motor.
11. Interface Ultrasonic sensor and IR sensor with Raspberry Pi and write a program to detect an object.
12. To interface ultrasonic sensor with Raspberry Pi/ Arduino and write a program to calculate distance of object.
13. Study of implementation of Web server using Node MCU and ESP module.
14. To create a local server using Node MCU.
15. To fetch humidity and temperature using DHT 11 sensor and sent it to local server.
16. Write a program to continuously monitor sensor reading through internet.
17. To generate API and program Node MCU.
18. To create Web page and control Home Appliances through Wi-Fi.
19. To create Adafruit account and using Adafruit to read sensor values and send data to node MCU.
20. To create local host server.