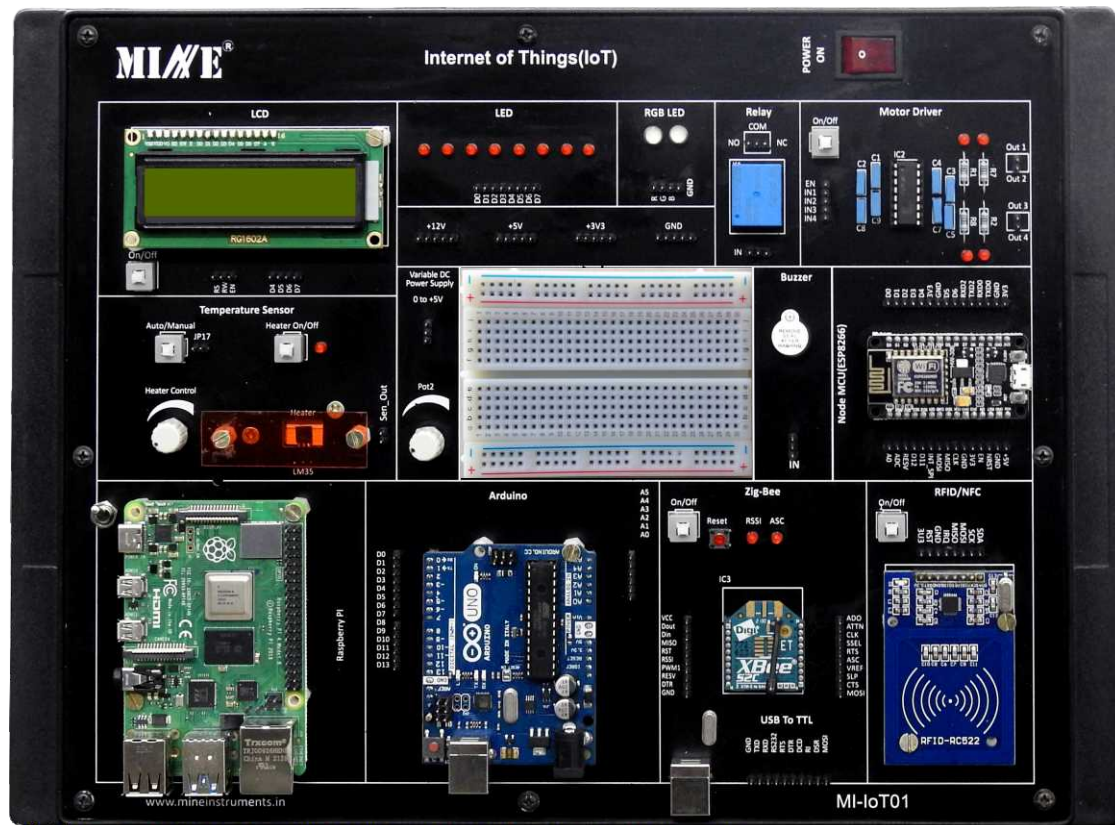




In the simplest terms, the Internet of Things (IoT) is how we describe the digitally connected universe of everyday physical devices. These devices are embedded with internet connectivity, sensors and other hardware that allow communication and control via the web. IoT trainer comes along with various types of sensors, actuator and processing unit gives a great exposure to learners and professionals for interfacing electronic entities to real word.

Supporting IOT & Operating System

- Windows
- Linux
- Arduino



Features

- In-depth practical learning on IoT
- UART RS232, I2C, SPI Protocol interface
- Python Programming for Applications
- Adequate no. of Digital & Analog I/O's for Interfacing Sensor & Actuators
- LCD Display
- IoT Gateway using Wi-Fi
- Camera connectivity
- Arduinio board interface
- Connectors for external module interface
- HDMI interface for display
- GSM IoT gateway (optional)
- Bluetooth interface (optional)
- Zigbee interface (optional)

Applications

IOT



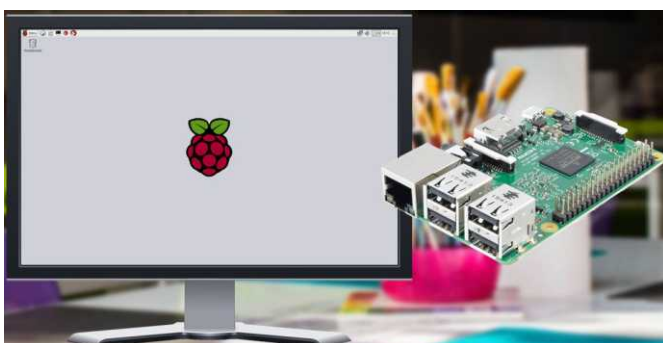
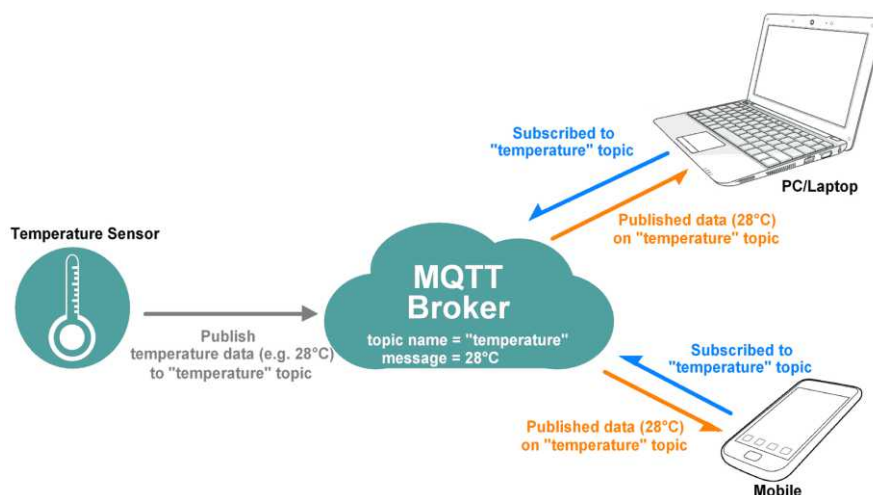
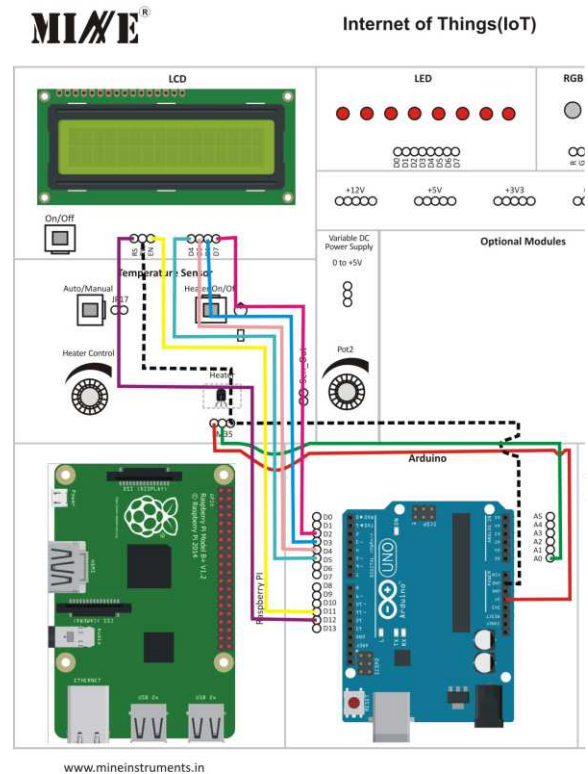
Learning's

Arduino

1. To study and install IDE of Arduino and different types of Arduino.
2. Write program using Arduino IDE for Blink LED.
3. Write program for RGB LED using Arduino.
4. Study the LCD and write program for "Hello world"
5. Study the Temperature sensor and write Program for monitor temperature Arduino
6. Study of Serial Communication using LED output
7. Study the Implement Zigbee wireless Communication Protocol
8. Study the application of Zigbee protocol using Arduino
9. Study the Implement RFID, NFC using Arduino.
10. Study of Node MCU

MQTT

11. Study about MQTT Protocol.
12. Implementation of Home Automation System using MQTT.



Raspberry Pi

15. Study of Raspberry Pi.
16. Raspberry Pi with GPIO and LED Blink.
17. Raspberry Pi with GPIO.

Technical Specifications

On Board Computing Devices

Raspberry Pi board Specification

Processor	: 64bit ARMv7 Quad Core Processor 1.2GHz
Connectivity	: 802.11 b/g/n Wireless LAN Bluetooth 4.1, zigbee, USB & Ethernet
RAM	: 4GB
Memory	: 32GB (upgradable)
OS	: Linux
Ethernet	: 10/100 BaseT Ethernet socket
Video Output	: HDMI and Composite RCA
Audio Output	: Audio Output 3.5mm jack
USB	: 4 nos.



Note: Raspberry Pi specification are subject to change and may be higher specification raspberry pi board come along with trainer.

Input & Output Devices

Motor Driver	: Stepper and DC Motor
Analog Input	: 6 nos.
Relay Output	: 1 no.
Buzzer Output	: 1 no
Zigbee Module	: 1 no
Zigbee Frequency	: 2.4GHz
Power	: 5V,2A

Arduino board specifications

Microcontroller	: ATmega328
Operating Voltage	: 5V
Digital I/O Pins	: 14 (of which 6 provide PWM output)
Analog Input Pins	: 6
Flash Memory	: 32 KB including bootloader
SRAM	: 2 KB (ATmega328)
EEPROM	: 1 KB (Atmega328)
Clock Speed	: 16 Mhz



Note: Arduino specification are subject to change and may be higher specification Arduino board come along with trainer.

NodeMCU ESP8266

- Microcontroller : Tensilica 32-bit RISC CPU Xtensa LX106
- Operating Voltage : 3.3V
- Input Voltage : 7-12V
- Digital I/O Pins (DIO) : 16
- Analog Input Pins (ADC) : 1
- UARTs : 1
- SPIs : 1
- I2Cs : 1
- Flash Memory : 4 MB
- SRAM : 64 KB
- Clock Speed : 80 MHz
- USB-TTL based on CP2102 is included onboard, Enabling Plug n Play
- PCB Antenna
- Small Sized module to fit smartly inside your IoT projects



Note: NodeMCU specification are subject to change and may be higher specification NodeMCU board come along with trainer.

Sensor & Actuator

- LED's
- RGB Color
- Relay
- Motor Driver
- LCD
- Temperature Sensor LM35
- Heater (inbuilt)
- Xbee (optional)
- Power Supply**
 - +5V, +12V
 - 0 to +5V

Accessories



Motor



Power Cable



HDMI to VGA Adaptor



Micro USB B-Type Cable



Micro HDMI to HDMI Adaptor



User Manual



RFID Card



Connecting Cable M-F & F-F



USB Cable B-Type



Xbee Board (optional)

Mine Instruments Pvt. Ltd. An ISO 9001:2015 Certified Company

67-B, First Floor, Electronic Complex, Pardeshipura, Indore-452010 (M.P.) India

e-mail: info@mineinstruments.com; sales@mineinstruments.com

www.mineinstruments.com; www.mineinstruments.in, [+91-731-4246503](tel:+91-731-4246503) [+91-6262603222](tel:+91-6262603222), [+91-6262603777](tel:+91-6262603777)

Regional [East : +91-6262601000](tel:+91-6262601000)

[West : +91-6262605000](tel:+91-6262605000)

[North : +91-6262609000](tel:+91-6262609000)

[South : +91-6262608000](tel:+91-6262608000)

Emails- east@mineinstruments.com | west@mineinstruments.com | north@mineinstruments.com | south@mineinstruments.com

