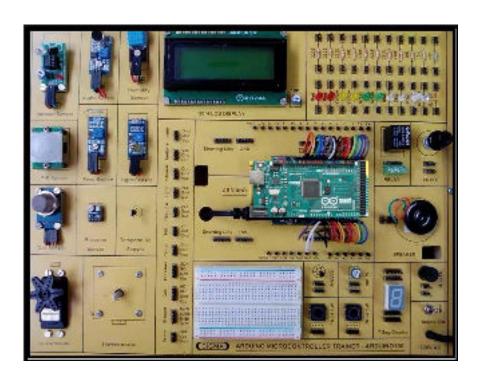


ARDUINO MEGA 2560 MICROCONTROLLER TRAINER MODEL-ARDUINO-MEGA-2560



This trainer has been designed with a view to provide practical and experimental knowledge of Internet of Things (IOT) with Sensors programing with Arduino Mega IOT Board.

SPECIFICATIONS

A. Main Specs

- 1. Following Parts and Modules are assembled on Single PCB of size 18 Inch x 15 Inch.
- 2. The complete circuit diagram is screen printed on component side of the PCB with circuit and Parts at the same place.
- 3. The PCB with components on front side is fitted in elegant wooden box having lock and key arrangement.
- 4. Modules and Parts should be removable without desodlering for easy repair / replacement
- 5. The acrylic cover is fitted on PCB to safeguard main parts.

B. Arduino Mega 2560 Microcontroller Board

1. 8 Bit RISC Microcontroller : Atmega 2560 Arduino Microcontroller board

2. Flash Memory : 256 KB, 8KB used by Bootloader

SRAM : 8 KB
 EEPROM : 4 KB
 Clock Speed : 16 MHz

6. USB Port : Mini USB Port

7. Digital Input / Output pins : 54 (of which 14 provide PWM output)

6. Analog input pins : 16
 7. UART : 2 Nos.
 8. I2C : 1 No

9. Power Supplies : 5V and 3.3V

C. Sensors:

- 1. Air Humidity and Temperature DHT11
- 2. Air Quality MQ135
- 3. Soil / Water Temperature Sensor DS18B20
- 4. Leaf Wetness Sensor Rain Detector Sensor
- Soil Moisture Sensor
- 6. Ambient Light Sensor LDR Light Sensor

D. Modules and Hardware:

- 1. 20 X 4 LCD Display
- 2. 1 Channel Relay board
- 3. DC Motor with Motor Driver board
- 4. Stepper Motor with Motor Driver board
- 5. 7 Segment Display
- 6. Different Resistors
- 7. Red, Green, Yellow LED
- 8. 10K Pot
- 9. Push Switch 2 Nos
- 10. Audio Buzzer Board
- 11. Breadboard 400 Points
- 12. 2 mm interconnection Sockets

E. Accessories

1. USB to Square USB Cable : 1 No

2. 2 mm Banana Jack Jumper – Connectors : 30 Nos

3. 9V, 1A Power Adaptor – Barrel 2.1mm : 1 No

4. Pen Drive - 16 GB with All Codes : 1 No

5. Printed Manual : 1 No.

6. Softcopy of Manual – On Pen Drive : 1 No

7. E-Books for IOT Subject – On Pen Drive : 10 Nos. in PDF Format

8. Mp4 Video for IOT Subject – On Pen Drive : 40 Nos

EXPERIMENTS

- 1. To understand theory and working of Arduino Mega Board
- 2. To understand Operating System for Arduino Mega
- 3. To understand Communication Protocols
- 4. To understand USB Interface for Arduino Mega
- 5. To understand that how to connect 20 x 4 LCD Display to Arduino Mega
- 6. To understand theory of Air Humidity and Temperature DHT11
- 7. To understand theory of Air Quality MQ135
- 8. To understand theory of Soil / Water Temperature Sensor
- 9. To understand theory of Leaf Wetness Sensor Rain Detector Sensor
- 10. To understand theory of Soil Moisture Sensor
- 11. To understand theory of Air Ambient Light Sensor LDR
- 12. To understand Active Audio Buzzer
- 13. To understand 1 Channel Relay Board
- 14. To understand fundamental of DC motor and its driver
- 15. To understand fundamental of Stepper Motor and its driver
- 16. To make LED blink
- 17. To connect LCD Display
- 18. To measure Humidity using Humidity DHT11 Sensor
- 19. To measure Air Humidity and Temperature using DHT11 Sensor
- 20. To measure Air Quality using Air Quality Sensor
- 21. To measure Temperature of Soil using Soil Temperature Sensor DS18B20
- 22. To measure wetness of Leaf using Leaf Wetness Sensor Rain Detector Sensor
- 23. To measure Moisture of soil using Soil Moisture Sensor
- 24. To measure Ambient Light using LDR Light Sensor
- 25. To use Audio buzzer for Output signal Alarm
- 26. To control 1 Channel Relay
- 27. To operate DC Motor control
- 28. To operate Stepper Motor

Contact us

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