52072H Experimental Setup has been designed specifically for learning IOT and apply it in embedded applications with **Cloud and App integration** . This Board contain necessary components and sensors that covers the basic as well as advanced areas of embedded systems it contain environmental sensors that are used for providing real time parameters. All the practical can be implemented using Arduino Programming Language which is an open source project also Google Script and Android Studio in combination with Flutter are use for creating Virtual Server and App Development.

Features:

1. ESP32 Board with USB Port for up loading programming and data communication.
2. +5V, +3.3 V and 12V at 100mA , IC regulated power supply internally connected.
3. Humidity sensor DHT-11. and LDR
4. Soil Moisture Sensor
5. O-LED for Displaying.
6. PH Sensor for calculating PH of different solution.
7. BMP-180 sensor for calculating pressure and temperature.
8. SDS011 for Air quality.
9. App for Virtual displaying and user interfacing.
10. Weight : 2KG
11. Dimension: W304 *H73*D203

Note: Specifications are subject to change.

Experiments:

1. OLED Display Initialization and Test
2. Temperature Measurement with DHT11 Sensor
3. Humidity Measurement with DHT11 Sensor
4. Light Intensity Measurement with LDR
5. Soil Moisture Measurement
6. Pressure Measurement with BMP180 Sensor
7. pH Measurement with pH Sensor
8. Particulate Matter Measurement with Nova PM Sensor
9. Weather Monitoring Station
10. Soil Moisture and Weather Correlation
11. Interfacing DHT11 Sensor with ESP32 and Viewing Data on Mobile App
12. Interfacing SDS011 Sensor with ESP32 and Viewing Data on Mobile App
13. Multi-Sensor Data Upload and Mobile App Visualization

Accessories:

1. CD with program and app.
2. Mains Lead
3. Operating Instruction Manual
4. Data Cable

Other Appratus:

- PC system with Windows 8 or greater
- Android device with android 8 or greater

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