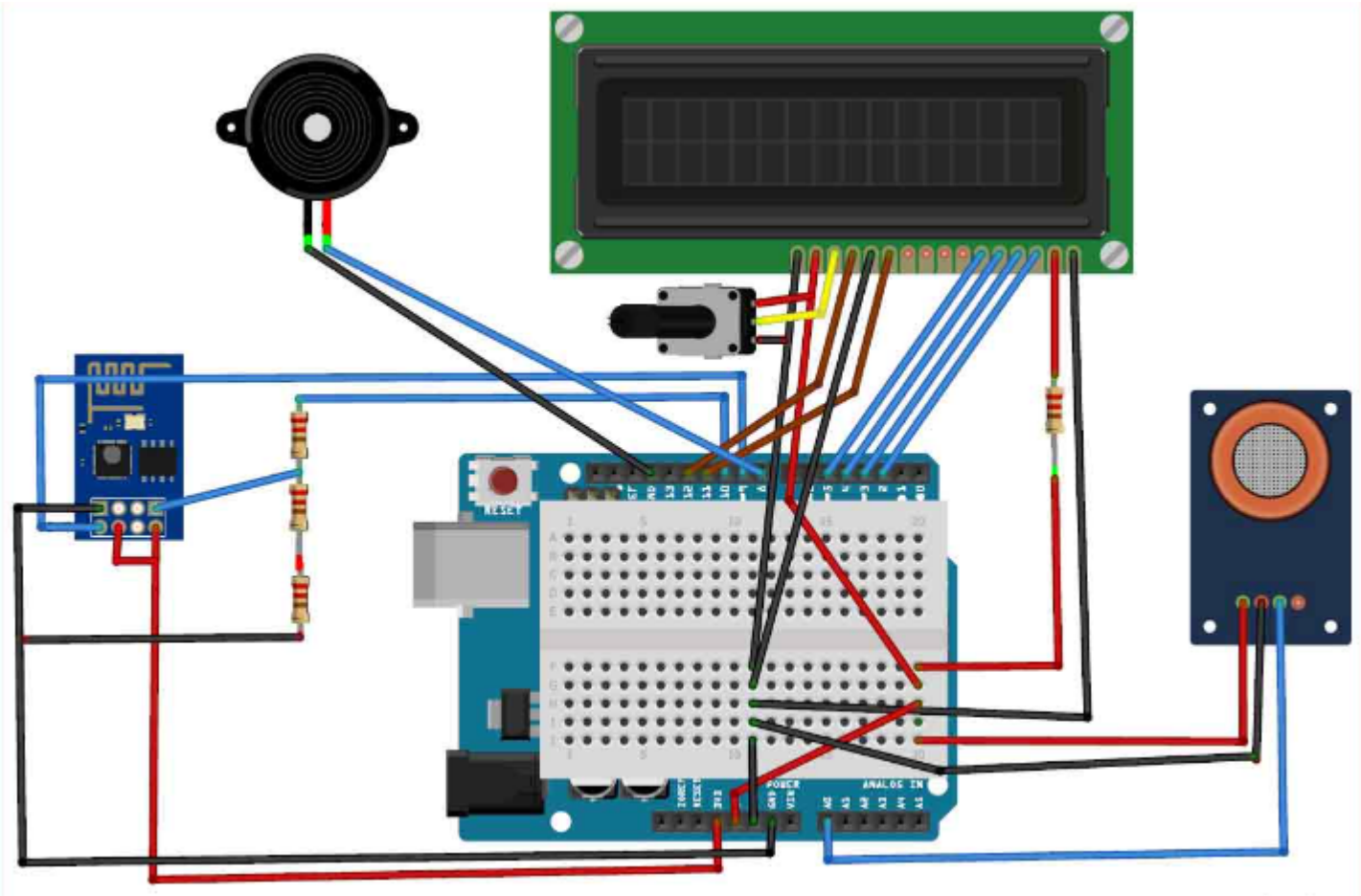
AIR QUALITY MONITORING PHASE 3

COMPONENTS REQUIRED:

- MQ135 Gas sensor
- Arduino Uno
- Wi-Fi module ESP8266
- 16X2 LCD
- Breadboard
- 10K potentiometer
- 1K ohm resistors
- 220 ohm resistor
- Buzzer

CIRCUIT DIAGRAM:

The circuit diagram for this IoT based air quality monitoring is given below:



PROGRAM:

```
#include <SoftwareSerial.h>

// SDS011 PM2.5 Sensor

SoftwareSerial sdsSerial(10, 11); // RX, TX pins

#define PM25 4

#define PM10 2

// Wi-Fi module (ESP8266)

#include <WiFi.h>

const char *ssid = "Your_WiFi_SSID";

const char *password = "Your_WiFi_Password";

const char *server = "api.thingspeak.com";

String apiKey = "Your_ThingSpeak_API_Key";


void setup()

 {

          Serial.begin(9600);

         sdsSerial.begin(9600);


         `// Connect to Wi-Fi

          WiFi.begin(ssid, password);
```

```
        while (WiFi.status() != WL_CONNECTED) {
        delay(1000);
        Serial.println("Connecting to WiFi...");
 }
 Serial.println("Connected to WiFi");
}

void loop() {
 // Read PM2.5 and PM10 data from SDS011 sensor
          if (sdsSerial.available() > 0) {
        if (sdsSerial.find(0xAA) && sdsSerial.find(0xC0)) {
        int pm25 = sdsSerial.read();
        int pm10 = sdsSerial.read();
        Serial.print("PM2.5: ");
        Serial.print(pm25);
        Serial.print(" µg/m³, PM10: ");
        Serial.print(pm10);
        Serial.println(" µg/m³");
// Send data to ThingSpeak
```