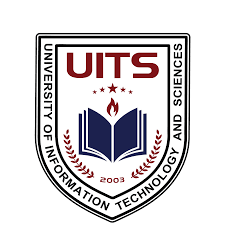
*****U*NIVERSITY OF *I*NFORMATION *T*ECHNOLOGY & *S*CIENCES (*UITS* )**

**ASSIGNMENT**

**on**

**INTERNET OF THINGS LAB**

⮘**Submitted To**⮚

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***F*AZLAY *R*ABBI**

* Department 🢣 CSE
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**Signature**

**1. Gas Sensor**

**Title:** Take input from a gas sensor. Show the sensor value on LCD and serial monitor.

**Necessary Equipment:**

1. Arduino UNO R3

2. Breadboard

3. 330 Ohm resistor

4. 3 LED

5. Gas sensor

**Objectives:**

Based on the sensor value, you have to turn on 3 LEDs.  
If the sensor value is less than 100, turn on green led  
If the value is Between 100 and 200,turn yellow led

If it is greater than200, turn on red led.

**A circuit board with wires

Description automatically generated**

**Code:**

int LED\_RED=12;

int LED\_GREEN=10;

int LED\_YELLOW=11;

void setup(){

pinMode(A0,INPUT);

pinMode(LED\_YELLOW, OUTPUT);

pinMode(LED\_RED, OUTPUT);

pinMode(LED\_GREEN, OUTPUT);

Serial.begin(9600);

}

void loop(){

int GasSennsorValue=analogRead(A0);

Serial.println(GasSennsorValue);

delay(1000);

if(GasSennsorValue>200){

digitalWrite(LED\_RED,HIGH);

digitalWrite(LED\_GREEN,LOW);

digitalWrite(LED\_YELLOW,LOW);

}

else if(GasSennsorValue<=200 && GasSennsorValue>=100){

digitalWrite(LED\_RED,LOW);

digitalWrite(LED\_GREEN,LOW);

digitalWrite(LED\_YELLOW,HIGH);

}

else if(GasSennsorValue <100){

digitalWrite(LED\_RED,LOW);

digitalWrite(LED\_GREEN,HIGH);

digitalWrite(LED\_YELLOW,LOW);

}

else{

digitalWrite(LED\_RED,LOW);

digitalWrite(LED\_GREEN,LOW);

digitalWrite(LED\_YELLOW,LOW);

}

}

**2. Control a servo motor with potentiometer**

**Title:** Take input from a potentiometer to Control a servo motor

**Necessary Equipment:**

1. Arduino UNO R3

2. Potentiometer

3. Servo motor

A circuit board with wires

Description automatically generated

**Code:**

#include <Servo.h>

Servo servo;

void setup(){

pinMode(A0,INPUT);

servo.attach(9);

}

void loop(){

int sensorVal=analogRead(A0);

int output=map(sensorVal,0,1023,0,180);

servo.write(output);

}

**3. Control the brightness of a light bulb with potentiometer**

**Title:** **Take input from a potentiometer to Control the brightness of a light bulb**

**Necessary Equipment:**

1. Arduino UNO R3

2. Potentiometer

3. Bulb

A circuit board with wires and a light bulb

Description automatically generated

**Code:**

void setup(){

pinMode(9, OUTPUT);

pinMode(A0, INPUT);

}

void loop(){

int sensorVal=analogRead(A0);

int outputValue=map(sensorVal,0,1023,0,355);

analogWrite(9,outputValue);

}