**Problem Statement :**

Real-Time River Water Quality Monitoring and Control System

**Domain :**

Internet of Things

**ASSIGNMENT 1**

By,

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**Code:**

constintpingPin = 10; constintledUS = 2; constint light = 7; constintpir = 4;

#define photoSensor A0 #define buzzer 3 intconstPINO\_SGAS = A5; intconstledGas = 8; intconst button = 5; intconst motor = 13;

void setup()

{

pinMode(ledUS, OUTPUT); pinMode(light, OUTPUT); pinMode(buzzer, OUTPUT); pinMode(ledGas, OUTPUT); pinMode(motor, OUTPUT); pinMode(pir, INPUT); pinMode(button, INPUT); pinMode(photoSensor, INPUT);

Serial.begin(9600);

}

void loop()

{

long duration, cm; intvalLight = analogRead(photoSensor); intvalPIR= digitalRead(pir);

intvalGAS = analogRead(PINO\_SGAS); valGAS = map(valGAS, 300, 750, 0, 100);

intvalBt = digitalRead(button); pinMode(pingPin, OUTPUT); digitalWrite(pingPin, LOW); delayMicroseconds(2); digitalWrite(pingPin, HIGH); delayMicroseconds(5); digitalWrite(pingPin, LOW); pinMode(pingPin, INPUT); duration = pulseIn(pingPin, HIGH); cm = microsecondsToCentimeters(duration); if(cm < 336){ digitalWrite(ledUS, HIGH);

}else{

digitalWrite(ledUS, LOW);

}

if(valLight< 890){ digitalWrite(light, HIGH);

}else{ digitalWrite(light, LOW);

}

if(valPIR == 1){ digitalWrite(buzzer, HIGH);

}else{

digitalWrite(buzzer, LOW);

}

if(valBt == 1){ digitalWrite(motor, HIGH);

}else{

digitalWrite(motor, LOW);

}

if(valGAS> 20){ digitalWrite(ledGas, HIGH);

}else{

digitalWrite(ledGas, LOW);

}

Serial.print(valPIR);

Serial.println();

}

long microsecondsToCentimeters(long microseconds) { return microseconds / 29 / 2;

}

**Simulation :**

