Code for Manhole Monitoring System

```
#include <SoftwareSerial.h>

#define sensorPin1 A1
#define ECHOPIN 5
#define TRIGPIN 6
int sensorPin = A0;


SoftwareSerial mySerial(3,2); // SIM800L Tx & Rx is connected to Arduino
#3 & #2

void setup()
{
  Serial.begin(115200);
  pinMode(sensorPin, INPUT);
  pinMode(ECHOPIN, INPUT_PULLUP);
  pinMode(TRIGPIN, OUTPUT);
  digitalWrite(ECHOPIN, HIGH);

  mySerial.begin(9600);
  delay(1000);
}

void loop()
{
  int tiltSensorValue = analogRead(sensorPin1);
  int distance = getDistance();
  int gasSensorValue = analogRead(A0);
  Serial.println(tiltSensorValue);

  if (tiltSensorValue > 450 )
  {
    sendMessage("Alert: Manhole Tilt Detected");
     Serial.println("tilt detected");
  }
  if (gasSensorValue > 80 )
  {
    sendMessage("Alert: Poisonous Gas Detected");
```

```
     Serial.println(" Poisonous Gas detected");
  }
  if (distance < 30  )
  {
    sendMessage("Alert: Water level Reached");
     Serial.println(" Water level Reached");
  }



  delay(1000);
}

int getDistance()
{
  digitalWrite(TRIGPIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIGPIN, HIGH);
  delayMicroseconds(15);
  digitalWrite(TRIGPIN, LOW);
  int pulseDuration = pulseIn(ECHOPIN, HIGH, 26000);
  int distance = pulseDuration / 58;
  Serial.println(distance);
  Serial.println(" cm");
  return distance;
}

void sendMessage(const char *message)
{
  mySerial.println("AT"); // Once the handshake test is successful, it
will back to OK
  updateSerial();
  mySerial.println("AT+CMGF=1"); // Configuring TEXT mode
  updateSerial();
  mySerial.println("AT+CMGS=\"+919495074331\""); // Change ZZ with country
code and xxxxxxxxxx with phone number to SMS
  updateSerial();
  mySerial.print(message); // Text content
  updateSerial();
  mySerial.write(26);
```

```
}

void updateSerial()
{
  delay(500);
  while (Serial.available())
  {
    mySerial.write(Serial.read()); // Forward what Serial received to
Software Serial Port
  }
  while (mySerial.available())
  {
    Serial.write(mySerial.read()); // Forward what Software Serial
received to Serial Port
  }
}
```