

SPRINT-3

Project Name	Real time river water quality monitoring and control system
Team ID	PNT2022TMID48179

CODE FOR ARDUINO

```
#include <OneWire.h>

#include <DallasTemperature.h>

#define ONE_WIRE_BUS 5

OneWire oneWire(ONE_WIRE_BUS);

DallasTemperature sensors(&oneWire);

float Celcius=0;

float Fahrenheit=0;
float voltage=0;

const int analogInPin = A0;

int sensorValue = 0;
```

```

unsigned long int avgValue;

float b;

int buf[10],temp;

void setup(void)
{
  Serial.begin(9600);

  sensors.begin();

  int sensorValue = analogRead(A1);
  voltage = sensorValue * (5.0 / 1024.0);
}

void loop(void)
{
  sensors.requestTemperatures();

  Celcius=sensors.getTempCByIndex(0);
  Fahrenheit=sensors.toFahrenheit(Celcius)
; for(int i=0;i<10;i++)

  {
    buf[i]=analogRead(analogInPin)
; delay(10);

  }
  for(int i=0;i<9;i++)

  {

```

```
for(int j=i+1;j<10;j++)
{
if(buf[i]>buf[j])
{
temp=buf[i];
buf[i]=buf[j];
buf[j]=temp;
}
}
}
for(int i=2;i<8;i++)
avgValue+=buf[i];
float pHVol=(float)avgValue*5.0/1024/6;
float phValue = -5.70 * pHVol + 21.34;
Serial.println(phValue);
Serial.print("pH");
Serial.print(" C ");
Serial.print(Celcius);
Serial.print(voltage);
Serial.print("V");
delay(10000);
}
```