**SPRINT 1**

Simulation Creation -Connect Sensors with Arduino using C++ code

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| Date | 8 October 2022 |
| Team ID | PNT2022TMID23506 |
| Project Name | Project – Smart Farmer-IoT Enabled smartFarming Application |
| Maximum Marks | 4 Marks |

**Connecting Sensors with Arduino using C++ code**

#include "Arduino.h" #include "dht.h"

#include "SoilMoisture.h"

#define dht\_apin A0

const int sensor\_pin = A1; //soil moisture int pin\_out = 9;

dht DHT; int c=0; void setup()

{

pinMode(2, INPUT); //Pin 2 as INPUT pinMode(3, OUTPUT); //PIN 3 as OUTPUT pinMode(9, OUTPUT);//output for pump

}

void loop()

{

if (digitalRead(2) == HIGH)

{

digitalWrite(3, HIGH); // turn the LED/Buzz ON delay(10000); // wait for 100 msecond digitalWrite(3, LOW); // turn the LED/Buzz OFF delay(100);

}

Serial.begin(9600); delay(1000);

DHT.read11(dht\_apin); //temprature float h=DHT.humidity;

float t=DHT.temperature; delay(5000); Serial.begin(9600);

float moisture\_percentage; int sensor\_analog;

sensor\_analog = analogRead(sensor\_pin);

moisture\_percentage = ( 100 - ( (sensor\_analog/1023.00) \* 100 ) );

float m=moisture\_percentage; delay(1000);

if(m<40)//pump

{

while(m<40)

{

digitalWrite(pin\_out,HIGH); //open pump sensor\_analog = analogRead(sensor\_pin);

moisture\_percentage = ( 100 - ( (sensor\_analog/1023.00) \* 100 ) );

m=moisture\_percentage; delay(1000);

}

digitalWrite(pin\_out,LOW); //closepump

}

if(c>=0)

{

mySerial.begin(9600); delay(15000); Serial.begin(9600); delay(1000); Serial.print("\r"); delay(1000);

Serial.print((String)"update-

>"+(String)"Temprature="+t+(String)"Humidity="+h+(String

)"Moisture="+m); delay(1000);

}

}

**Circuit Diagram**

