Week 7.

Aim: Write a Program to upload temperature and Humidity data to the cloud using an Arduino.

Hardware Requirements.

1. Arduino UNO board
2. Node MCU ESP 8266 Breakout Board.
3. DHT-11/DHT-22 Temperature and Humidity Sensor.
4. Jumper wires.
5. Bread board.
6. WIFI Network.

Source Code:

```
# include <DHT.h>
# include <ESP8266WiFi.h>
String apikey = "WN1Y86N7XXAFGUP";
const char* ssid = "Samsung A12";
const char * Pass = "xxxxxx";
const char* Server = "api.thingspeak.com";
# Define DHTPIN D3
DHT dht (DHTPIN, DHT11);
WiFiClient client;
Void setup() {
    Serial.begin(115200);
    delay(1000);
```

```
dht.begin();
Serial.Println("connecting to");
Serial.Println(ssid);
WIFI.begin(ssid, Pass);
while(WiFi.status()!=WL_CONNECTED)
{
delay(2000);
Serial.Print(".");
}
Serial.Println("");
Serial.Println("WiFi connected");
}
Void loop()
{
float h = dht.readHumidity();
float t = dht.readTemperature();
if(isnan(h)||isnan(t))
{
Serial.Println("Failed to read from DHT Sensor!");
return;
}
if(client.connect(server,80))
{
String PostStr = apikey;
PostStr += "&field1=";
PostStr += String(h);
```

```
Poststr += "&field2=";
Poststr += String(t);
Poststr += "\r\n\r\n";
client.Print("Post/update HTTP/1.1\n");
client.Print("Host: api.thingspeak.com\n");
client.Print("connection: close\n");
client.Print("X-THINGSPEAKAPIKEY: "+apikey+"\n");
client.Print("Content-Type: application/x-www-form-
                urlencoded\n");
client.Print("Content-length: ");
client.Print(Poststr.length());
client.Print("\n\n");
client.Print(Poststr);
Serial.Print("Temperature: ");
Serial.Print(t);
Serial.Print("degree celcius, Humidity: ");
Serial.Print(h);
Serial.Println("%... Send to Thingspeak:");
}
client.stop();
Serial.Println("waiting...");
delay(1000);
}.
```

output:

Thingspeak channels ▽ Apps ▽ Devices ▽ Support ▽

Temperature Sensor

channel ID: 2467178.

access: Private.

Private View.