

## NIELIT, Gorakhpur

**Course Name: A-level (1<sup>st</sup> Sem.)**

**Subject:IoT**

**Topic: HC05 with Arduino**

**Date: 16.04.2020**

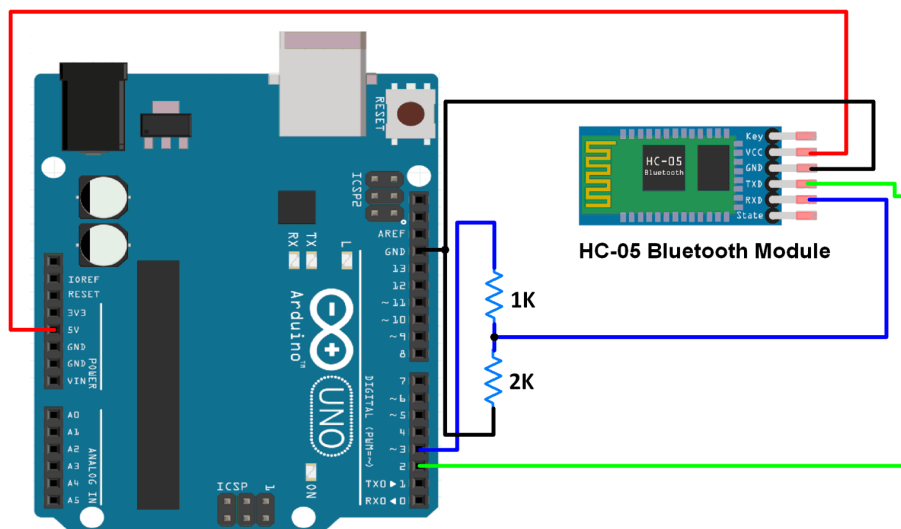
### **Introduction**

HC-05 is a Bluetooth device used for wireless communication with Bluetooth enabled devices (like smartphone). It communicates with microcontrollers using serial communication (USART).

Default settings of HC-05 Bluetooth module can be changed using certain AT commands.

As HC-05 Bluetooth module has 3.3 V level for RX/TX and microcontroller can detect 3.3 V level, so, there is no need to shift TX voltage level of HC-05 module. But we need to shift the transmit voltage level from microcontroller to RX of HC-05 module.

### **Interfacing Diagram**



### **Interfacing HC-05 Bluetooth Module with Arduino UNO**

**Note :** Default Bluetooth name of the device is “HC-05” and default PIN (password) for connection is either “0000” or “1234”.

## Example

Here, we will transmit data from Smartphone via Bluetooth to the Arduino Uno and display it on Serial Monitor of PC.

Download and install a **Bluetooth terminal** application on your phone and use it to connect to the HC-05 Bluetooth module.

Data is sent from the Smartphone using the **Bluetooth terminal** application.

Sketch for Displaying Data Received Via Bluetooth On Serial Monitor

```
#include<SoftwareSerial.h>
```

```
/* Create object named bt of the class SoftwareSerial */
```

```
SoftwareSerial bt(2,3); /* (Rx,Tx) */
```

```
void setup() {
```

```
  bt.begin(9600);      /* Define baud rate for software serial communication */
```

```
  Serial.begin(9600); /* Define baud rate for serial communication */
```

```
}
```

```
void loop() {
```

```
  if (bt.available()) /* If data is available on serial port */
```

```
  {
```

```
    Serial.write(bt.read()); /* Print character received on to the serial monitor */
```

```
  }
```

```
}
```