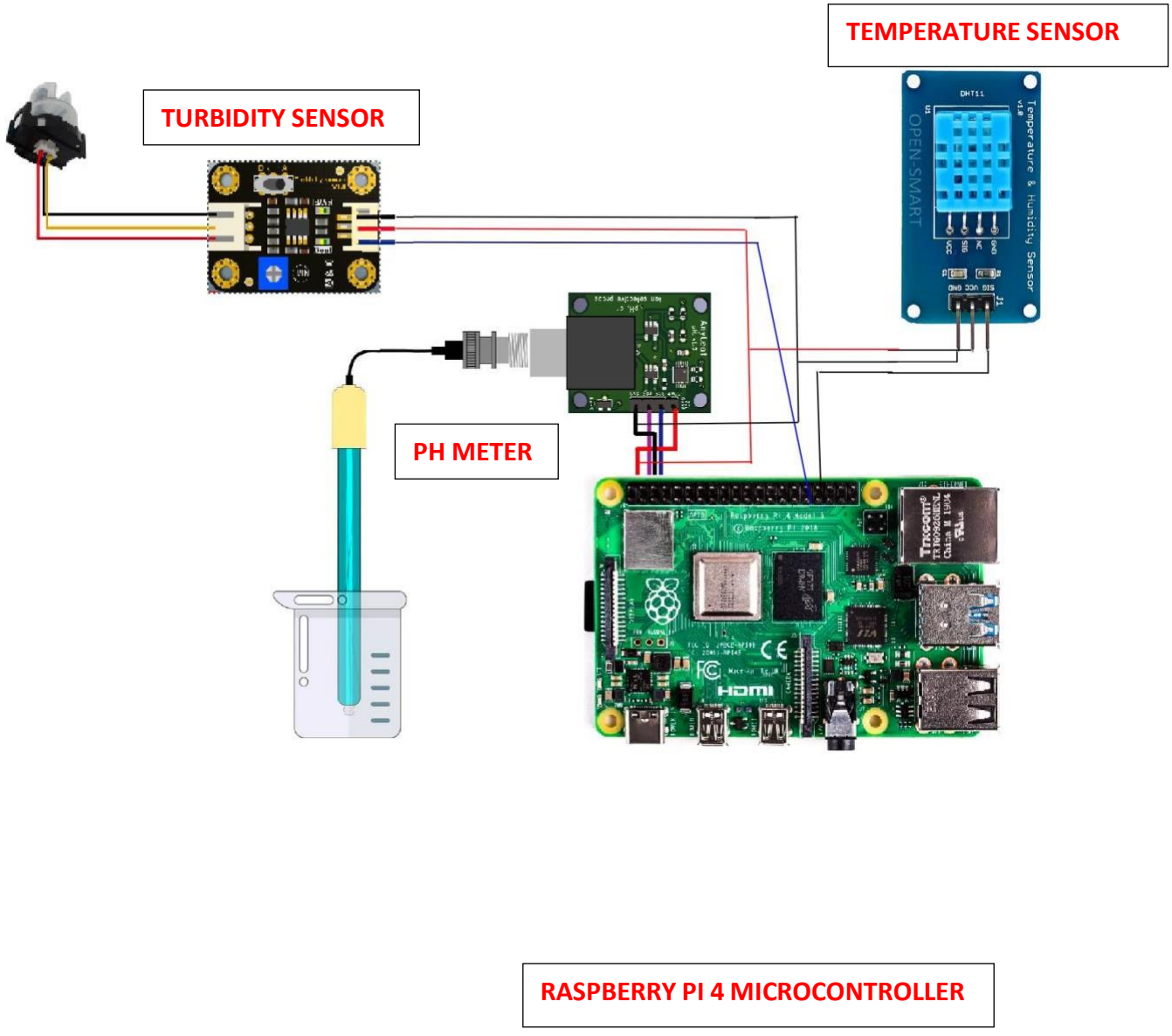
Sprint 2

Team ID	PNT2022TMID47935
Project Name	Real-time river water quality monitoring and control system

REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

CIRCUIT DIAGRAM



PROGRAMMING:

```
import ibmiotf.application
import ibmiotf.device
import time
import random
```

```
 import sys
 from twilio.rest import Client
 import keys
 Client = Client(keys.account_sid, keys.auth_token)

organization = "ks8pti"
deviceType = "rasberrypi"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"


 pH = random.randint(1, 14)
 turbidity = random.randint(1, 1000)
 temperature = random.randint(0, 100)


 def myCommandCallback(cmd):
    print("Command Received: %s" % cmd.data['command'])
    print(cmd)


 try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-
 method":authMethod,
                  "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)

 except Exception as e:
    print("caught exception connecting device: %s" % str(e))
    sys.exit()

 deviceCli.connect(

 )while True:

    pH = random.randint(1, 14)
    turbidity = random.randint(1, 1000)
    temperature = random.randint(0, 100)

    data = {'pH': pH, 'turbid': turbidity, 'temp': temperature}
    def SMS():
       message = Client.messages.create(
          body="ALERT!! THE WATER QUALITY IS DEGRADED",
          from_=keys.twilio_number,
           to = keys.target_number)
       print(message.body)
```

```
   if temperature>70 or pH<6 or turbidity>500:
      SMS()

   def myOnPublishCallback():
      print("Published pH= %s" % pH, "Turbidity:%s" % turbidity, "Temperature:%s" %
temperature)


   success = deviceCli.publishEvent("demo", "json", data, qos=0,
on_publish=myOnPublishCallback)
   if not success:
      print("Not Connected to ibmiot")
   time.sleep(5)
   deviceCli.commandCallback =

myCommandCallbackdeviceCli.disconnect()
```