Question (b) : **b)** In Done if you want to use ESP8266 with the controller to communicate, how will you do it.

Answer :

ESP8266 us ESP8266 is a highly integrated Wi-Fi chip designed for space- and power-constrained mobile platform designers.

Basically sued in the communication between the devices like an iot.
As equiped with the wifi module.

For connectinng the communication with the controller , we need two main thigs first , :

The controller

The nod MCU ESP8266 , on which the wifi module , ESP8266 isembedded.

Common steps to do :

1) connecting the wires.
2) soldering pins or required connections.

Main things to do for Power :

1) Connect the VCC pin of the ESP8266 to a 3.3V power source.
2) Connect the GND pin to the ground of the flight controller.

Main things to do for the communication :

1) Connect the RX pin of the ESP8266 to the TX pin of the flight controller's UART port.
2) Connect the TX pin of the ESP8266 to the RX pin of the flight controller's UART port.

Also to be note is keep the record of the voltage of the controller as well as the controller maintain that by the level shifter

Now configuring comes :
For this we habe to download the At firmware fro Esp8266

flashing it In

Setting it :
Use a serial terminal (e.g., PuTTY, Arduino Serial Monitor) to connect to the ESP8266 and issue AT commands to set it up.
Commands

```
AT
AT+CWMODE=1
AT+CWJAP="SSID","PASSWORD"
AT+CIPSTART="TCP","IP_ADDRESS",PORT
```

```
Now have to prohgram the controller
```

same thing we do here cononect the esp8266 to the controller and try to establish the connection between them ,using these wifi modules.

The range depend the comunicatin behavoiur of type of porotocol

Now final step is to establosj the connetion with the controller to the moduleo on the arduino on the devide.

So now is the code part .

```
#include <ESP8266WiFi.h>

const char* ssid = "Rajat";
const char* password = "Rajat123";

WiFiServer server(80);

void setup() {
  Serial.begin(115200);
  WiFi.begin(ssid, password);

  while (WiFi.status() != WL_CONNECTED) {
    delay(1000);
    Serial.println("Connecting to WiFi...");
  }

  Serial.println("Connected to WiFi");
  server.begin();
}

void loop() {
  WiFiClient client = server.available();
  if (client) {
    while (client.connected()) {
      if (client.available()) {
        String command = client.readStringUntil('\n');
        Serial.println(command);
```

```
        }
      }
      client.stop();
    }
}
```