SNS COLLEGE OF TECHNOLOGY
Coimbatore-35
An Autonomous Institution

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to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECT213-IoT SYSTEM ARCHITECTURE
II B.E. ECE / IV SEMESTER

GSM Modem

- A GSM modem is a specialized type of modem which accepts a SIM card, and operates over a subscription to a mobile operator, just like a mobile phone. From the mobile operator perspective, a GSM modem looks just like a mobile phone.

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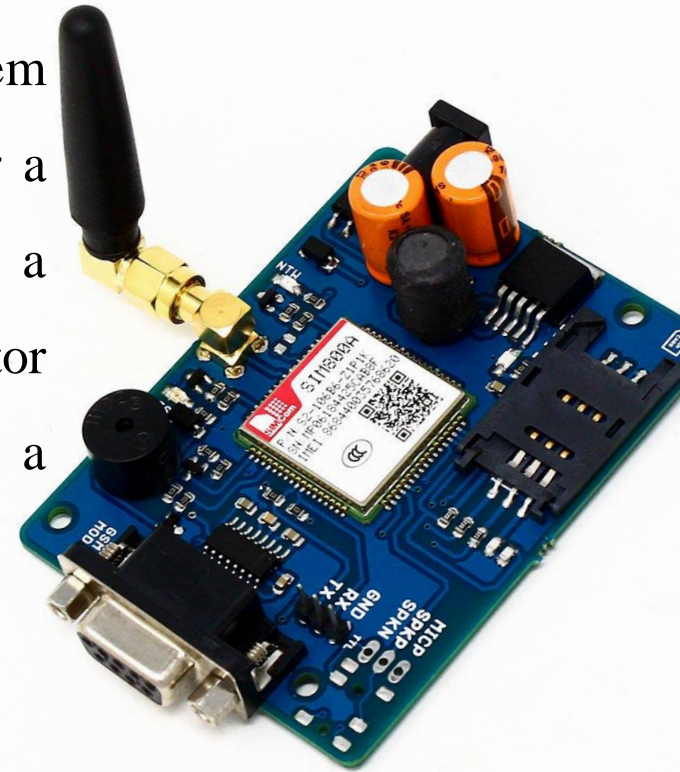
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- GSM modem is used as a generic term to refer to any modem that supports one or more of the protocols in the GSM evolutionary family, including the 2.5G technologies GPRS and EDGE, as well as the 3G technologies WCDMA, UMTS, HSDPA and HSUPA.

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HC05 Bluetooth Tranceiver

- The HC-05 is a very cool module which can add two-way (full-duplex) wireless functionality to your projects. You can use this module to communicate between two microcontrollers like Arduino or communicate with any device with Bluetooth functionality like a Phone or Laptop.

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The module communicates with the help of USART at 9600 baud rate hence it is easy to interface with any microcontroller that supports USART. We can also configure the default values of the module by using the command mode.
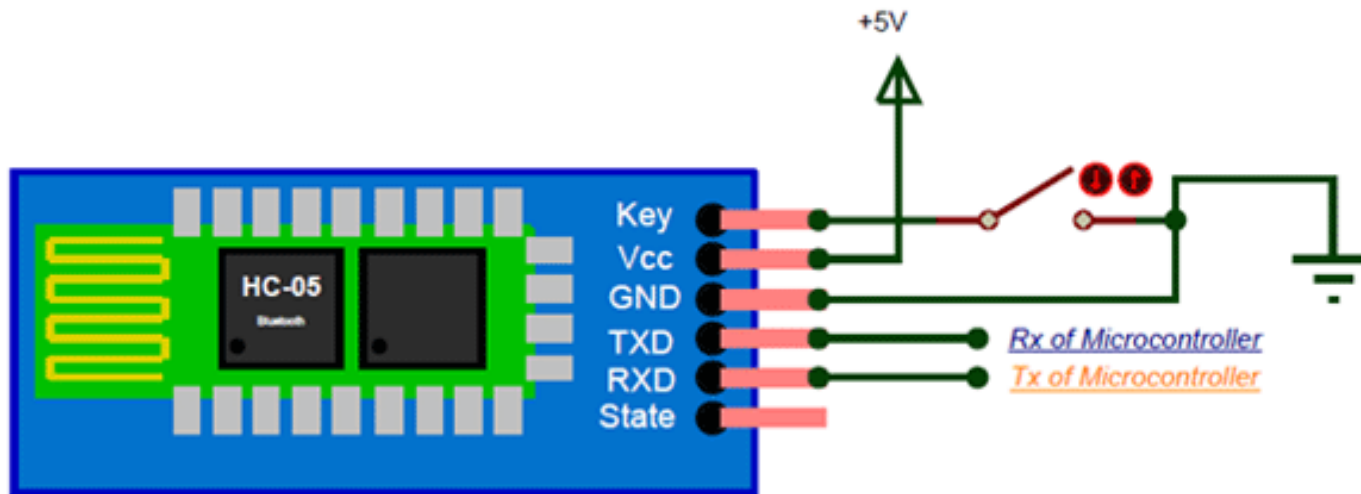
It transfer data from your computer or mobile phone to microcontroller or vice versa

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The HC-05 has two operating modes, one is the Data mode in which it can send and receive data from other Bluetooth devices and the other is the AT Command mode where the default device settings can be changed. We can operate the device in either of these two modes by using the key pin as explained in the pin description.

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ESP8266 Wi-Fi Module

ESP8266 is Wi-Fi enabled system on chip (SoC) module developed by Espressif system. It is mostly used for development of IoT (Internet of Things) embedded applications.

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Capabilities

ESP8266 comes with capabilities of 2.4 GHz Wi-Fi (802.11 b/g/n, supporting WPA/WPA2), general-purpose input/output (16 GPIO), Inter-Integrated Circuit (I²C) serial communication protocol, analog-to-digital conversion (10-bit ADC) Serial Peripheral Interface (SPI) serial communication protocol, I²S (Inter-IC Sound) interfaces with DMA(Direct Memory Access) (sharing pins with GPIO), UART (on dedicated pins, plus a transmit-only UART can be enabled on GPIO2), and pulse-width modulation (PWM).
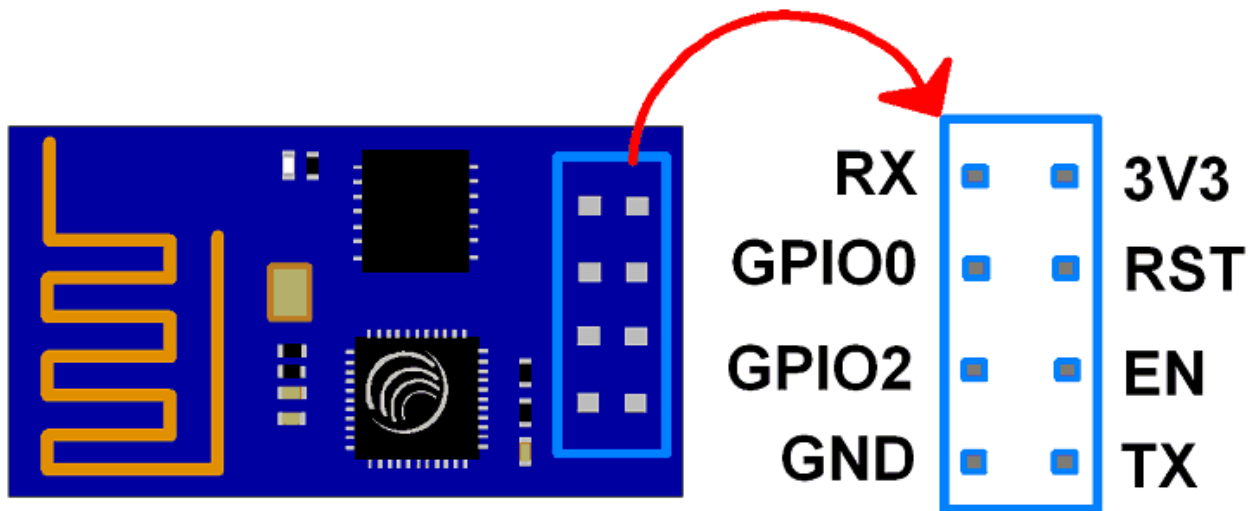
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       To communicate with the ESP8266 module, microcontroller needs to use set of AT commands. Microcontroller communicates with ESP8266-01 module using UART having specified Baud rate.

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