**2. Explain the difference between authentication and encryption in WiFi security.**

**Authentication:**

* Authentication is the process of verifying the identity of users or devices trying to access the Wi-Fi network.
* To ensure that only authorized users or devices are allowed to connect to the network.
* During authentication, the network checks if the user or device has the correct credentials (like a password or certificate) to join the network. If the credentials are valid, the device is allowed access.
* Ensuring that the right people or devices are connecting to the network.

**Encryption:**

* Encryption is the process of securing the data transmitted over the Wi-Fi network by converting it into unreadable form.
* To protect the privacy of the data and prevent unauthorized parties from reading or intercepting it.
* When data is sent over the network, it is scrambled using encryption algorithms. Only authorized devices with the correct key can decrypt and read the data.
* Protecting the confidentiality of the data being transmitted across the network.

**Key Difference:**

* Authentication focuses on who can access the network, while encryption focuses on how the data is protected once it’s on the network.
* Authentication ensures only authorized users can connect, while encryption ensures that the data exchanged between devices remains private.