**3. Discuss the benefits of Target Wake Time (TWT) in Wi-Fi 6 for IoT devices.**

* TWT stands for Target Wake Time.
* It’s a power-saving feature introduced in Wi-Fi 6.
* It is especially useful for IoT (Internet of Things) devices, which often send small amounts of data but stay connected for long periods.
* With TWT, the device and router agree on a schedule → the device wakes up only at specific times to send/receive data, then goes back to sleep mode.
* This scheduled communication reduces unnecessary listening and idle time.
* Longer Battery Life: Devices like sensors, smart locks, or smart meters conserve battery by staying asleep most of the time.
* Less Network Congestion: Since devices wake up at different scheduled times, it avoids crowding the network with constant "hello" signals.
* Efficient Power Management: Critical for low-power IoT devices deployed in large numbers (smart homes, factories, smart cities).
* Predictable Communication: Devices know exactly when to wake up and communicate, leading to better performance planning.