**7. Describe the structure of an 802.11 PHY layer frame. What are its key components?**

**Structure of an 802.11 Physical Layer Frame**

The 802.11 PHY layer frame is the format used to transmit data over the air. It includes not only the actual data but also important control information to help the receiver understand and decode the signal correctly. Each Wi-Fi standard (like 802.11a, 802.11n, etc.) may have slight variations, but the basic structure is generally similar.

**Key Components of a Physical Layer Frame:**

1. **Preamble**

This comes at the beginning of the frame and is used for synchronization. It helps the receiver detect the signal and prepare for demodulation. It also allows the receiver to estimate the channel conditions.

1. **PHY Header**

The PHY header carries important control information like the data rate, length of the payload, modulation scheme used, and other parameters. The receiver reads this to figure out how to interpret the following data.

1. **Data (PSDU – PLCP Service Data Unit)**

This is the actual data coming from the MAC layer. It includes the MAC header, payload (like user data), and CRC for error checking. This part gets modulated and transmitted after the header.