Q9. What is the difference between MIMO and MU-MIMO?

MIMO (Multiple Input Multiple Output)

Uses multiple antennas at both transmitter and receiver

Sends multiple data streams to one device at a time

Improves speed, range, and signal reliability

Used in Wi-Fi standards like 802.11n, ac, ax

MU-MIMO (Multi-User MIMO)

An upgrade of MIMO

Sends different data streams to multiple devices simultaneously

Increases network capacity and reduces wait time

10. What are PPDU, PLCP, and PMD in the PHY layer?

PPDU (PLCP Protocol Data Unit)

The complete frame transmitted over the air by the PHY layer

Contains: PLCP header + payload . It's what the receiver detects and decodes

PLCP (Physical Layer Convergence Protocol)

Part of the PHY layer that prepares MAC data for transmission

Adds preamble and header to help the receiver synchronize and decode. Sits between MAC and PMD

PMD (Physical Medium Dependent)

The hardware-specific part of the PHY layer

Deals with actual transmission and reception of bits over the medium

Converts bits into radio waves and vice versa