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## **Wi-Fi Training Program 2025**

### **Module 5**

#### **Question 9:**

**Explain the concept of Fast BSS Transition (802.11r) and its benefit in mobile environments.**

#### **Solution:**

Fast BSS Transition (802.11r) is a Wi-Fi standard designed to speed up the handoff process when a wireless device (like a phone or tablet) moves between access points (APs) within the same network.

Concept of 802.11r – Fast BSS Transition

- BSS stands for Basic Service Set, which is essentially one access point in a Wi-Fi network.
- Normally, when a device switches from one AP to another (called roaming), it must go through a full authentication process, which can cause a delay of several hundred milliseconds.
- 802.11r reduces this delay by allowing the client to pre-authenticate with nearby APs before the actual handoff happens.

Benefit	Description
Reduced Handoff Time	Roaming latency drops from hundreds of milliseconds to less than 50 ms.
Seamless Mobility	Ideal for real-time applications like VoIP, video calls, and gaming.
Improved User Experience	Prevents connection drops during movement in places like offices, malls, or campuses.
Better Battery Efficiency	Faster transitions use less power, extending battery life.