Q8. What are challenges if deploying autonomous APs (more than 50) in large network like university.

Scalability Issues – Managing configurations, SSIDs, and security policies across 50+ APs manually is complex and time-consuming.

Lack of Centralized Management – No Wireless LAN Controller (WLC) means each AP must be configured and updated individually.

Roaming Issues – Clients may experience disconnects or reauthentication delays when moving between APs since there's no seamless handoff.

RF Interference & Channel Management – No centralized radio resource management (RRM), leading to co-channel interference and suboptimal performance.

Security Risks – Each AP must have consistent security policies (WPA3, VLANs, ACLs), making enforcement difficult and increasing vulnerability.

High Maintenance Effort – Any configuration changes (SSID, QoS, VLANs) require manual updates on each AP, making network administration inefficient.

Inconsistent Performance – Without a WLC, load balancing and QoS are harder to manage, leading to poor user experience in high-density areas.

Solution
For large networks, Lightweight APs with a WLC or Cloud-Managed APs (Cisco Meraki, Aruba Central) provide centralized control, seamless roaming, and automated RF management.

Q9. What happens on wireless client connected to Lightweight AP in local mode if WLC goes

If the WLC fails, a Lightweight AP in Local Mode will stop functioning properly since it relies on the controller for client authentication and traffic forwarding.

Impact on Clients

1. The AP stops forwarding traffic, so connected clients lose their network connection.
2. The AP cannot authenticate new clients without the WLC.
3. After a timeout, the AP stops broadcasting the SSID.
4. Clients moving between APs will experience dropped connections.

In Local Mode, APs tunnel all control and data traffic to the WLC. Without the WLC, the AP cannot handle authentication, mobility, or traffic forwarding.

Solution to Avoid this:

We can use FlexConnect Mode . APs can continue local switching and keep clients connected even if the WLC is down.