Experiment 2 - WAN with Wired and Wireless LAN (Oral Questions & Answers)

Q1. What is the aim of this experiment?

Answer: To create a WAN that contains both wired and wireless LANs and show packet transfer between them using Cisco Packet Tracer.

Q2. What is a LAN?

Answer: LAN (Local Area Network) connects computers within a small area like a building, office, or home.

Q3. What is a WAN?

Answer: WAN (Wide Area Network) connects multiple LANs over large distances like cities or countries.

Q4. What is the main difference between LAN and WAN?

Answer: LAN covers a small area and is fast; WAN covers a large area and is slower.

Q5. Give one real-life example of a WAN.

Answer: The Internet is the best example of a WAN.

Q6. What is a wired LAN?

Answer: A wired LAN connects devices using physical cables, usually Ethernet cables.

Q7. Which cable is used in wired LAN?

Answer: Copper straight-through or Cat5e/Cat6 Ethernet cable.

Q8. What devices are used to make a wired LAN?

Answer: PCs, Switches, Routers, and Ethernet cables.

Q9. What are the advantages of wired LAN?

Answer: High speed, reliability, and better security.

Q10. What is one disadvantage of wired LAN?

Answer: Limited mobility - devices cannot move freely.

Q11. What is a wireless LAN?

Answer: A network that connects devices without cables using radio waves (Wi-Fi).

Q12. What device is used to connect wireless devices?

Answer: An Access Point (AP) or a Wi-Fi Router.

Q13. What is SSID?

Answer: SSID stands for Service Set Identifier - it is the name of the Wi-Fi network.

Q14. What is WEP?

Answer: WEP (Wired Equivalent Privacy) is a type of security key used to protect wireless networks.

Q15. What are the advantages of a wireless LAN?

Answer: Easy to install, provides mobility, and fewer cables needed.

Q16. What is one disadvantage of wireless LAN?

Answer: Less secure and can have signal interference.

Q17. What is an Access Point?

Answer: Its a device that connects wireless devices to a wired network.

Q18. What is the function of an Access Point?

Answer: It acts as a bridge between wired LAN and wireless devices.

Q19. What is a Router?

Answer: A router connects different networks and forwards data packets based on IP addresses.

Q20. How is a router different from a switch?

Answer: A switch connects devices in the same network, while a router connects different networks.

Q21. Why do we need a router in WAN?

Answer: Because WAN connects multiple LANs, and the router helps in directing traffic between them.

Q22. What IP address range was used in this experiment?

Answer: 172.155.141.x (for example: 172.155.141.11, 172.155.141.12, etc.).

Q23. What is a Gateway?

Answer: The gateway is the IP address of the router through which devices access other networks.

Q24. What gateway was used in this experiment?

Answer: 172.155.141.1

Q25. What is the role of a switch in this setup?

Answer: The switch connects all wired devices together in a LAN.

Q26. What is the role of an Access Point in this setup?

Answer: The Access Point connects laptops and smartphones to the network wirelessly.

Q27. How do wireless devices connect to the Access Point?

Answer: By selecting the SSID and entering the WEP key (Wi-Fi password).

Q28. How do we test the connection between devices?

Answer: By using the ping command in the command prompt of a PC.

Q29. What does the ping command do?

Answer: It sends a test packet to another device to check if the connection works.

Q30. What happens when ping is successful?

Answer: It shows a reply message (Reply from ...), meaning the devices are communicating.

Q31. In this experiment, which devices communicate with each other?

Answer: PC0 (wired) communicates with PC1, Laptop, and Smartphone (wireless).

Q32. What is the difference between wired and wireless LAN?

Answer: Wired uses cables; wireless uses radio waves.

Q33. Why do we use both wired and wireless LAN in one network?

Answer: To combine speed (wired) and mobility (wireless).

Q34. Which OSI layer is responsible for transmission media and signals?

Answer: The Physical Layer (Layer 1).

Q35. What did you learn from this experiment?

Answer: I learned how to create and configure a WAN containing both wired and wireless LANs using Cisco Packet Tracer.