

1. What is a computer network?
 2. What are different types of networks: LAN, MAN, WAN?
 3. What is the OSI Model? Explain all 7 layers.
 4. What is the TCP/IP Model and how is it different from OSI?
 5. What is an IP address? Difference between IPv4 and IPv6?
 6. What is a subnet mask?
 7. What is a MAC address?
 8. What is the difference between hub, switch, and router?
 9. What is a default gateway?
 10. What is the difference between public and private IP?
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Routing, Switching & Protocols

11. What is routing? Explain how routers forward packets.
12. What is switching? How is it different from routing?
13. What is a routing protocol? Explain OSPF, BGP, and EIGRP.
14. What is static routing and dynamic routing?
15. What is a VLAN and why is it used?
16. What is trunking in networking?
17. What is NAT (Network Address Translation)?
18. What is PAT (Port Address Translation)?
19. What is ARP (Address Resolution Protocol)?

20. What is DHCP and how does it work?

Network Security & Services

21. What is DNS and how does DNS resolution work?

22. What is a firewall and what types of firewalls exist?

23. What is a proxy server?

24. What is VPN? Difference between site-to-site and remote VPN?

25. What is SSL/TLS?

26. What are common network attacks (DoS, DDoS, MITM, spoofing)?

27. What is port forwarding?

28. What is network segmentation and why is it important?

29. What is load balancing?

30. What is QoS (Quality of Service)?

Troubleshooting & Tools

31. What happens when you type a URL in a browser and press Enter?

32. What is MTU? What issues occur if MTU is mismatched?

33. How do you troubleshoot network latency?

34. What is packet loss and how do you detect it?

35. What is the `ping` command used for?

36. What is the `traceroute/tracert` command used for?

37. What does `netstat` do?

38. What is nslookup/dig used for?
39. How do you fix an IP conflict?
40. How do you troubleshoot "No Internet Access" issues?