

CCNA SYLLABUS

1. Introduction to Networks
2. Types of Network
3. Communication (Types & Modes)
4. Topologies
5. Different Networking Devices (Hub, Bridge, Switch, Router)
6. Collision and Broadcast Domain
7. IP Addressing
8. Conversion – a. Decimal to Binary
b. Binary to Decimal
9. Classes of IPs
10. Subnet Mask, Prefix length, CIDR
11. Subnetting
12. Variable Length Subnet Mask (VLSM)
13. Summarization
14. Open System Interconnection (OSI) Model
 - a. Application Layer
 - b. Presentation Layer
 - c. Session Layer
 - d. Transport Layer
 - e. Network Layer
 - f. Data link layer
 - g. Physical Link Layer
15. Data Encapsulation and Decapsulation
16. TCP/IP Model
17. Introduction to Services
 - a. Hyper Text Transfer Protocol (HTTP)
 - b. HTTP Secure (HTTPS)
 - c. File Transfer Protocol (FTP)
 - d. TFTP (Trivial FTP)
 - e. Domain Name Service (DNS)
18. Dynamic Host Configuration Protocol (DHCP)
19. TELNET
20. SSH
21. TCP Header
22. UDP Header

23. IP Header
24. TTL, Protocol no.
25. ICMP Utilities (Ping & Traceroute) and Messages (Query & Error)
26. Media Access Control (MAC) Address
27. Address Resolution Protocol (ARP)
28. Switch Functions – Addressing & Forwarding
29. Route Preference Criteria
30. Static Routing
31. Dynamic Routing – IGP & EGP
32. Routing Information Protocol (RIP) – version 1 & version 2
33. Enhanced Interior Gateway Routing Protocol (EIGRP)
34. Open Shortest Path First (OSPF)
35. Switch Function – Filtering
 - a. Virtual LAN (VLAN)
 - b. Switch ports
 - c. Frame Tagging
 - d. Trunk ports
 - e. DTP
36. VLAN Trunking Protocol (VTP)
37. Spanning Tree Protocol (STP) – STP elections
38. Access Control List (ACL)
39. Network Address Translation (NAT)

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BONUS TOPICS