? EASY (10 Questions)

Q1. What is subnetting primarily used for?

A. Increasing bandwidth
B. Reducing broadcast domains
C. Encrypting traffic
D. Replacing routing

Q2. Which part of an IP address identifies the network?

A. Host portion
B. Network portion
C. MAC portion
D. Gateway portion

Q3. How many bits are in an IPv4 address?

A. 16
B. 24
C. 32
D. 64

Q4. What does a subnet mask do?

A. Encrypts IP addresses
B. Identifies network and host portions
C. Assigns MAC addresses
D. Provides routing metrics

Q5. Which subnet mask represents /24?

A. 255.0.0.0
B. 255.255.0.0
C. 255.255.255.0
D. 255.255.255.255

Q6. How many usable hosts are available in a /30 subnet?

A. 1
B. 2
C. 4
D. 6

Q7. Which address cannot be assigned to a host?

A. First IP of subnet
B. Any middle IP
C. Last IP of subnet
D. All except gateway

Q8. What is the binary value of 255?

A. 11110000
B. 11111111
C. 00000000
D. 10101010

Q9. Which subnet mask provides the maximum number of subnets?

A. /8
B. /16
C. /24
D. /30

Q10. A Class C network has a default subnet mask of:

A. 255.0.0.0
B. 255.255.0.0
C. 255.255.255.0
D. 255.255.255.255

□ MEDIUM (15 Questions)

Q11. How many subnets are created by borrowing 3 bits?

A. 4
B. 6
C. 8
D. 16

Q12. How many hosts can a /26 subnet support?

A. 30
B. 62
C. 64
D. 126

Q13. Which formula is used to calculate usable hosts?

A. 2^n
B. $2^n - 1$
C. $2^n - 2$
D. $n^2 - 2$

Q14. A subnet mask of 255.255.255.224 corresponds to:

A. /25
B. /26
C. /27
D. /28

Q15. What is the block size of a /26 subnet?

A. 32
B. 64
C. 128
D. 256

Q16. Which address is the broadcast address in subnet 192.168.1.64/26?

A. 192.168.1.63
B. 192.168.1.64
C. 192.168.1.127
D. 192.168.1.128

Q17. How many usable hosts are available in a /29 subnet?

A. 4
B. 6
C. 8
D. 14

Q18. Which subnet mask allows 14 usable hosts?

A. /27
B. /28
C. /29
D. /30

Q19. What is the network address of 10.10.5.73/24?

A. 10.10.5.0
B. 10.10.0.0
C. 10.0.0.0
D. 10.10.5.255

Q20. Subnetting improves network performance by:

A. Increasing latency
B. Reducing broadcast traffic
C. Eliminating routers
D. Increasing collisions

Q21. Which subnet mask supports exactly 2 usable hosts?

A. /29
B. /30
C. /31
D. /28

Q22. In subnetting, borrowed bits come from:

A. Network portion
B. Host portion
C. MAC address
D. Gateway address

Q23. Which classful network supports the most hosts?

A. Class A
B. Class B
C. Class C
D. Class D

Q24. What is the last usable host in 192.168.10.0/28?

A. 192.168.10.13
B. 192.168.10.14
C. 192.168.10.15
D. 192.168.10.16

Q25. What is the broadcast address of 172.16.5.0/24?

A. 172.16.5.0
B. 172.16.5.254
C. 172.16.5.255
D. 172.16.0.255

🟥 HARD (15 Questions)

Q26. How many subnets are possible in a Class B network if 6 bits are borrowed?

A. 32
B. 64
C. 128
D. 256

Q27. What is the subnet mask for a network requiring at least 50 hosts?

A. /25
B. /26
C. /27
D. /28

Q28. Given 192.168.1.0/27, how many subnets are created?

A. 4
B. 6
C. 8
D. 16

Q29. What is the valid host range of 192.168.2.128/25?

A. 192.168.2.129 – 192.168.2.254
B. 192.168.2.128 – 192.168.2.255
C. 192.168.2.130 – 192.168.2.253
D. 192.168.2.1 – 192.168.2.126

Q30. Which subnet mask gives 32 total addresses?

A. /26
B. /27
C. /28
D. /29

Q31. A /23 network has how many usable hosts?

A. 254
B. 510
C. 1022
D. 2046

Q32. Which subnet mask is used when block size is 16?

A. /27
B. /28
C. /29
D. /26

Q33. In 10.0.0.0/8, how many bits are used for hosts?

A. 8
B. 16
C. 24
D. 32

Q34. Which subnet mask would divide a Class C network into 8 subnets?

A. /25
B. /26
C. /27
D. /28

Q35. What is the first usable host of 192.168.50.64/26?

A. 192.168.50.64
B. 192.168.50.65
C. 192.168.50.66
D. 192.168.50.127

Q36. Why are network and broadcast addresses reserved?

A. For encryption
B. For routing and broadcast identification
C. For NAT translation
D. For MAC resolution

Q37. Which subnetting approach uses equal-sized subnets?

A. VLSM
B. CIDR
C. FLSM
D. NAT

Q38. Which subnet mask provides the smallest usable host count?

A. /28
B. /29
C. /30
D. /27

Q39. Subnetting is primarily a function of which OSI layer?

A. Data Link
B. Network
C. Transport
D. Application

Q40. What happens if too many bits are borrowed for subnetting?

A. More hosts per subnet
B. Fewer subnets
C. Fewer usable hosts
D. Increased bandwidth