

<b>Started on</b>	Monday, 1 December 2025, 12:21 PM
<b>State</b>	Finished
<b>Completed on</b>	Monday, 1 December 2025, 12:31 PM
<b>Time taken</b>	10 mins 24 secs
<b>Marks</b>	29.00/38.00
<b>Grade</b>	<b>76.32</b> out of 100.00

**Question 1**

Complete

Mark 0.00 out of 1.00

A /30 subnet mask is typically used for:

- ☒ a. Multicast networks
- ☐ b. DHCP pools
- ☐ c. LAN segments
- ☐ d. WAN point-to-point links

**Question 2**

Complete

Mark 1.00 out of 1.00

A network with subnet mask 255.255.255.192 belongs to which prefix?

- ☐ a. /25
- ☐ b. /28
- ☒ c. /26
- ☐ d. /27

**Question 3**

Complete

Mark 1.00 out of 1.00

How many hosts are usable in a /29 network?

- ☐ a. 4
- ☐ b. 8
- ☐ c. 2
- ☒ d. 6

**Question 4**

Complete

Mark 1.00 out of 1.00

In the OSI model, which layer provides end-to-end process-to-process delivery?

- ☐ a. Physical Layer
- ☐ b. Data Link Layer
- ☒ c. Transport Layer
- ☐ d. Network Layer

**Question 5**

Complete

Mark 1.00 out of 1.00

In the TCP/IP model, which layer includes HTTP, DNS, and FTP?

- ☐ a. Transport Layer
- ☒ b. Application Layer
- ☐ c. Link Layer
- ☐ d. Internet Layer

**Question 6**

Complete

Mark 0.00 out of 1.00

The maximum size of an Ethernet MAC address is:

- ☐ a. 32 bits
- ☐ b. 64 bits
- ☒ c. 128 bits
- ☐ d. 48 bits

**Question 7**

Complete

Mark 1.00 out of 1.00

What is the total number of subnets created when borrowing 3 bits from the host portion?

- ☒ a. 8
- ☐ b. 4
- ☐ c. 16
- ☐ d. 6

**Question 8**

Complete

Mark 0.00 out of 1.00

What type of NAT allows multiple private IPs to share a single public IP?

- ☐ a. Static NAT
- ☐ b. One-to-One NAT
- ☒ c. Dynamic NAT
- ☐ d. PAT (Port Address Translation)

**Question 9**

Complete

Mark 0.00 out of 1.00

Which congestion control mechanism triggers retransmission before timeout?

- ☐ a. Fast Retransmit
- ☐ b. Slow Start
- ☒ c. Congestion Avoidance
- ☐ d. Fast Recovery

**Question 10**

Complete

Mark 1.00 out of 1.00

Which error correction technique can correct single-bit errors?

- ☐ a. LRC
- ☐ b. CRC
- ☐ c. VRC
- ☒ d. Hamming Code

**Question 11**

Complete

Mark 0.00 out of 1.00

Which error detection method can detect all single-bit errors and most multi-bit errors?

- ☐ a. CRC
- ☐ b. LRC
- ☒ c. Parity
- ☐ d. Checksum

**Question 12**

Complete

Mark 1.00 out of 1.00

Which error detection technique uses polynomial division on data bits?

- ☐ a. VRC
- ☐ b. Checksum
- ☐ c. LRC
- ☒ d. CRC

**Question 13**

Complete

Mark 1.00 out of 1.00

Which ICMP message is used by the ping command?

- ☐ a. Time Exceeded
- ☐ b. Redirect
- ☒ c. Echo Request / Echo Reply
- ☐ d. Destination Unreachable

**Question 14**

Complete

Mark 1.00 out of 1.00

Which interior routing protocol uses Dijkstra's SPF algorithm?

- ☐ a. BGP
- ☐ b. EIGRP
- ☒ c. OSPF
- ☐ d. RIP

**Question 15**

Complete

Mark 1.00 out of 1.00

Which IPv4 header field is decremented at every router hop?

- ☐ a. Fragment Offset
- ☐ b. Identification
- ☐ c. Flags
- ☒ d. TTL (Time-To-Live)

**Question 16**

Complete

Mark 1.00 out of 1.00

Which IPv6 feature removes the need for NAT?

- ☐ a. Link-local addressing
- ☐ b. Flow Label Field
- ☐ c. Stateless Autoconfiguration
- ☒ d. Unique Global Addresses

**Question 17**

Complete

Mark 1.00 out of 1.00

Which of the following is a valid Class C IP address?

- ☐ a. 172.16.10.20
- ☒ b. 192.168.12.1
- ☐ c. 10.23.4.5
- ☐ d. 224.1.2.3

**Question 18**

Complete

Mark 0.00 out of 1.00

Which of the following uses AS-PATH as its primary metric?

- ☐ a. EIGRP
- ☐ b. RIP
- ☒ c. OSPF
- ☐ d. BGP

**Question 19**

Complete

Mark 1.00 out of 1.00

Which OSI layer adds physical addresses and performs framing?

- ☐ a. Transport Layer
- ☐ b. Network Layer
- ☐ c. Presentation Layer
- ☒ d. Data Link Layer

**Question 20**

Complete

Mark 1.00 out of 1.00

Which OSI layer breaks data into segments?

- ☐ a. Data Link Layer
- ☐ b. Application Layer
- ☒ c. Transport Layer
- ☐ d. Network Layer

**Question 21**

Complete

Mark 1.00 out of 1.00

Which OSI layer is responsible for encryption and data representation?

- ☐ a. Transport Layer
- ☐ b. Application Layer
- ☒ c. Presentation Layer
- ☐ d. Session Layer

**Question 22**

Complete

Mark 1.00 out of 1.00

Which OSI layer is responsible for synchronizing dialog control and managing checkpoints during communication sessions?

- ☒ a. Session Layer
- ☐ b. Presentation Layer
- ☐ c. Data Link Layer
- ☐ d. Transport Layer

**Question 23**

Complete

Mark 1.00 out of 1.00

Which part of the IPv4 header ensures integrity of the header fields?

- ☐ a. Identification Field
- ☐ b. Version Field
- ☒ c. Header Checksum
- ☐ d. Options Field

**Question 24**

Complete

Mark 1.00 out of 1.00

Which process converts domain names to IP addresses?

- ☐ a. NAT
- ☒ b. DNS
- ☐ c. DHCP
- ☐ d. ARP

**Question 25**

Complete

Mark 1.00 out of 1.00

Which protocol automatically assigns IP, subnet mask, and default gateway to hosts?

- ☐ a. ARP
- ☒ b. DHCP
- ☐ c. ICMP
- ☐ d. SNMP

**Question 26**

Complete

Mark 1.00 out of 1.00

Which protocol is used for error reporting and network diagnostics?

- ☐ a. ARP
- ☐ b. DHCP
- ☐ c. SMTP
- ☒ d. ICMP

**Question 27**

Complete

Mark 1.00 out of 1.00

Which protocol maps an IPv4 address to a MAC address on a LAN?

- ☐ a. RARP
- ☐ b. DNS
- ☒ c. ARP
- ☐ d. ICMP

**Question 28**

Complete

Mark 1.00 out of 1.00

Which protocol traces the route taken by packets across routers?

- ☐ a. DNS
- ☐ b. DHCP
- ☐ c. ARP
- ☒ d. ICMP Time Exceeded

**Question 29**

Complete

Mark 1.00 out of 1.00

Which routing protocol is used for inter-domain (between AS) routing?

- ☐ a. RIP
- ☐ b. EIGRP
- ☒ c. BGP
- ☐ d. OSPF

**Question 30**

Complete

Mark 0.00 out of 1.00

Which routing protocol uses both distance-vector and link-state features (hybrid)?

- ☒ a. OSPF
- ☐ b. RIP
- ☐ c. BGP
- ☐ d. EIGRP

**Question 31**

Complete

Mark 0.00 out of 1.00

Which routing protocol uses Distance Vector and a maximum hop count limitation?

- ☐ a. BGP
- ☐ b. RIP
- ☐ c. IS-IS
- ☒ d. OSPF



**Question 32**

Complete

Mark 1.00 out of 1.00

Which subnet mask corresponds to exactly 512 hosts?

- ☐ a. /22
- ☐ b. /24
- ☒ c. /23
- ☐ d. /25

**Question 33**

Complete

Mark 1.00 out of 1.00

Which TCP mechanism ensures reliable connection establishment before data transfer begins?

- ☐ a. Fast Retransmit
- ☐ b. Slow Start
- ☒ c. Three-Way Handshake
- ☐ d. Sliding Window

**Question 34**

Complete

Mark 1.00 out of 1.00

Which TCP mechanism is used to prevent overwhelming the receiver?

- ☐ a. Congestion Window
- ☒ b. Flow Control (Sliding Window)
- ☐ c. Maximum Segment Size
- ☐ d. Checksum

**Question 35**

Complete

Mark 1.00 out of 1.00

Which TCP/IP layer is responsible for logical addressing and routing decisions?

- ☒ a. Network (Internet) Layer
- ☐ b. Link Layer
- ☐ c. Transport Layer
- ☐ d. Application Layer

**Question 36**

Complete

Mark 1.00 out of 1.00

Which technique is used by CRC to detect burst errors?

- ☐ a. Exponential Backoff
- ☐ b. Parity Check
- ☐ c. Hamming Distance
- ☒ d. Polynomial Modulo-2 Division

**Question 37**

Complete

Mark 1.00 out of 1.00

Which transport layer protocol is connectionless and best suited for real-time applications?

- ☐ a. ICMP
- ☐ b. SCTP
- ☒ c. UDP
- ☐ d. TCP

**Question 38**

Complete

Mark 0.00 out of 1.00

Which type of switching is used in modern IP networks?

- ☐ a. Circuit Switching
- ☐ b. Packet Switching
- ☒ c. Virtual Channel Switching
- ☐ d. Message Switching