

10 EASY MCQs

Q1. Which protocol is responsible for delivering packets from source to destination across networks?

- A. TCP
- B. UDP
- C. IP
- D. ARP

Q2. What is the full form of IP?

- A. Internet Path
- B. Internal Protocol
- C. Internet Protocol
- D. Interconnecting Process

Q3. Which layer of the TCP/IP model corresponds to OSI Transport Layer?

- A. Internet Layer
- B. Application Layer
- C. Network Access Layer
- D. Transport Layer

Q4. TCP is a _____ protocol.

- A. Connectionless
- B. Connection-oriented
- C. Stateless
- D. Non-reliable

Q5. UDP provides _____.

- A. Guaranteed delivery
- B. Error recovery
- C. Fast, connectionless communication
- D. Congestion control

Q6. IPv4 address size is _____.

- A. 64-bit
- B. 32-bit
- C. 128-bit
- D. 8-bit

Q7. Which TCP/IP layer is responsible for routing?

- A. Application
- B. Internet
- C. Network Access
- D. Transport

Q8. UDP is widely used in _____ applications.

- A. Email
- B. FTP
- C. VoIP
- D. Remote login

Q9. Which protocol ensures reliable transmission?

- A. UDP
- B. TCP
- C. ICMP
- D. ARP

Q10. Which version of IP provides a much larger address space?

- A. IPv1
- B. IPv2
- C. IPv4
- D. IPv6

15 MEDIUM MCQs

Q11. What is the main purpose of the Internet Layer in the TCP/IP model?

- A. Establish connections
- B. Physical data transmission
- C. Logical addressing and routing
- D. Application support

Q12. Which of the following describes fragmentation in IP?

- A. Combining packets
- B. Splitting packets into smaller units

- C. Encrypting packets
- D. Broadcasting packets

Q13. TCP uses which mechanism to control data flow?

- A. Hopping
- B. Windowing
- C. Token passing
- D. Polling

Q14. UDP uses port numbers for:

- A. Encryption
- B. Session creation
- C. Multiplexing/demultiplexing
- D. Flow control

Q15. Which field in an IPv4 header helps routers prevent looping?

- A. Options
- B. TOS
- C. TTL
- D. Flags

Q16. In TCP, the 3-way handshake is used for:

- A. Addressing
- B. Data encryption
- C. Connection establishment
- D. Fragmentation

Q17. Which protocol is used for error reporting in the IP layer?

- A. ICMP
- B. TCP
- C. UDP
- D. FTP

Q18. Which layer of TCP/IP handles ARP?

- A. Transport
- B. Internet
- C. Network Access
- D. Application

Q19. What is a major drawback of IPv4?

- A. Too many headers
- B. Limited address space
- C. Slow routing
- D. Requires TCP

Q20. TCP ensures reliability through:

- A. Checksums only
- B. ACKs and retransmissions
- C. Hop count
- D. Port forwarding

Q21. UDP does not perform _____.

- A. Error checking
- B. Segmentation
- C. Sequence numbering
- D. Multiplexing

Q22. Which TCP/IP layer includes protocols like HTTP, FTP, and DNS?

- A. Transport
- B. Application
- C. Internet
- D. Network Access

Q23. In TCP, congestion control includes:

- A. Additive decrease
- B. Slow start
- C. Packet flooding
- D. Token passing

Q24. IPv6 removes the need for:

- A. Routing
- B. NAT
- C. ICMP
- D. DNS

Q25. UDP is preferred for online gaming because:

- A. It guarantees delivery
 - B. It supports large headers
 - C. It reduces latency
 - D. It uses congestion control
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15 HARD MCQs

Q26. What happens when a TCP sender receives three duplicate ACKs?

- A. Connection reset
- B. Timeout occurs
- C. Fast retransmit is triggered
- D. Flow control stops

Q27. The TCP sliding window mechanism helps in:

- A. Managing packet encryption
- B. Adjusting the receive buffer dynamically
- C. Ensuring packets arrive in the exact order
- D. Controlling both flow and congestion

Q28. Which IPv6 feature eliminates broadcast traffic?

- A. Stateless autoconfiguration
- B. Anycast addressing
- C. Flow label field
- D. Extension headers

Q29. Fragmentation in IPv6 is handled by:

- A. Routers
- B. Hosts only
- C. Switches
- D. Firewalls

Q30. In TCP, which flag combination is used to gracefully close a connection?

- A. SYN + ACK
- B. FIN + ACK
- C. RST
- D. ACK only

Q31. UDP is considered suitable for real-time applications because:

- A. It performs packet recovery
- B. It is connection-oriented
- C. It avoids retransmission delays
- D. It ensures ordering

Q32. In the TCP/IP model, the function of encapsulation occurs at:

- A. Only at Transport layer
- B. Only at Internet layer
- C. Every layer
- D. Only at Application layer

Q33. Which field in an IPv6 packet supports QoS differentiation?

- A. Version
- B. Payload length
- C. Flow label
- D. Hop limit

Q34. TCP's slow start begins with a congestion window size of:

- A. One MSS
- B. Two MSS
- C. 64 KB
- D. Zero

Q35. UDP checksum is:

- A. Mandatory in IPv4, optional in IPv6
- B. Optional in IPv4, mandatory in IPv6
- C. Mandatory in both IPv4 and IPv6
- D. Disabled by default

Q36. The protocol responsible for mapping IP addresses to MAC addresses is part of which TCP/IP layer?

- A. Application
- B. Transport
- C. Internet
- D. Network Access

Q37. TCP's reliability ensures:

- A. Lossless, ordered, duplicate-free delivery
- B. High-speed transmission without checks
- C. Lower latency at all times
- D. No congestion in the network

Q38. Path MTU Discovery helps to avoid:

- A. Congestion collapse
- B. Fragmentation
- C. Packet corruption
- D. Port exhaustion

Q39. The TCP urgent pointer is used for:

- A. Handling large packets
- B. Prioritizing urgent data within the stream
- C. Detecting errors
- D. Starting a new connection

Q40. When comparing TCP with UDP, which statement is correct?

- A. TCP is faster than UDP
- B. UDP guarantees ordered delivery
- C. TCP uses handshaking; UDP does not
- D. UDP uses congestion control mechanisms