

Q1. How many layers are present in the OSI model?

- A. 5
- B. 6
- C. 7
- D. 8

Q2. Which layer is responsible for end-to-end communication?

- A. Network
- B. Transport
- C. Data Link
- D. Session

Q3. The Presentation layer is also known as:

- A. Translation layer
- B. Linking layer
- C. Switching layer
- D. Routing layer

Q4. Which layer deals with logical addressing?

- A. Physical
- B. Network
- C. Application
- D. Session

Q5. The Data Link layer provides:

- A. Encryption
- B. Error detection
- C. Path determination
- D. Congestion control

Q6. What is the PDU of the Transport layer?

- A. Frame
- B. Bit
- C. Packet
- D. Segment

Q7. Which OSI layer interacts directly with the user?

- A. Network
- B. Presentation
- C. Application
- D. Transport

Q8. Ethernet operates at which OSI layers?

- A. Layer 1 and Layer 2
- B. Layer 3 and Layer 4
- C. Layer 5 and Layer 6
- D. Only Layer 7

Q9. Which OSI layer is responsible for synchronization between communicating devices?

- A. Session
- B. Network
- C. Presentation
- D. Data Link

Q10. Which OSI layer converts data into electrical, optical, or radio signals?

- A. Physical
 - B. Transport
 - C. Session
 - D. Presentation
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❖ MEDIUM LEVEL (15 Questions)

Q11. Which two sublayers exist within the Data Link layer?

- A. MAC and LLC
- B. TCP and UDP
- C. CSMA and CD
- D. HTTP and FTP

Q12. Routing occurs at which OSI layer?

- A. Data Link
- B. Transport
- C. Network
- D. Session

Q13. Which OSI layer performs compression and decompression?

- A. Application
- B. Transport
- C. Presentation
- D. Network

Q14. Flow control is primarily handled by which layer?

- A. Presentation
- B. Transport
- C. Network
- D. Session

Q15. The Physical layer deals with:

- A. Bits and signaling
- B. Frames and MAC addressing
- C. Packets and routing
- D. Segments and ports

Q16. Which OSI layer ensures dialogue control between devices?

- A. Session
- B. Transport
- C. Application
- D. Network

Q17. Which OSI layer establishes, maintains, and ends communication sessions?

- A. Presentation
- B. Session
- C. Physical
- D. Transport

Q18. Error control at the Data Link layer is performed using:

- A. TCP acknowledgments
- B. CRC
- C. ARP records
- D. Routing tables

Q19. Which OSI layer manages port numbers?

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

Q20. Which OSI layer is responsible for packet fragmentation and reassembly?

- A. Presentation
- B. Session
- C. Transport
- D. Network

Q21. The Application layer provides which service?

- A. Email and file transfer
- B. Switching
- C. Routing
- D. MAC addressing

Q22. Which OSI layer checks physical medium availability?

- A. Session
- B. Network
- C. Physical
- D. Data Link

Q23. Logical addressing is assigned at which layer?

- A. Physical
- B. Transport
- C. Network
- D. Data Link

Q24. Which device primarily operates at Layer 2?

- A. Router
- B. Switch
- C. Gateway
- D. Hub

Q25. Which OSI layer provides data representation services like character encoding?

- A. Network
- B. Application

- C. Presentation
 - D. Data Link
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❖ HARD LEVEL (15 Questions)

Q26. The primary function of the Transport layer's multiplexing is to:

- A. Combine multiple signals into frames
- B. Identify multiple communication flows using ports
- C. Assign IP addresses dynamically
- D. Convert packets to bits

Q27. Which OSI layer is responsible for negotiating communication parameters such as full-duplex or half-duplex?

- A. Network
- B. Data Link
- C. Presentation
- D. Physical

Q28. Which OSI layer handles connection-oriented vs connectionless communication?

- A. Network
- B. Session
- C. Transport
- D. Data Link

Q29. In OSI architecture, segmentation and reassembly are performed at the:

- A. Session layer
- B. Transport layer
- C. Network layer
- D. Presentation layer

Q30. Which OSI layer manages dialog modes (simplex, half-duplex, duplex)?

- A. Session
- B. Data Link
- C. Transport
- D. Application

Q31. In the OSI model, transparent data translation between different systems is performed by the:

- A. Presentation layer
- B. Session layer
- C. Network layer
- D. Transport layer

Q32. Connection establishment in a reliable transport protocol such as TCP corresponds to functions of which OSI layer?

- A. Network
- B. Transport
- C. Session
- D. Presentation

Q33. In certain scenarios, the Network layer performs packet lifetime control using:

- A. TTL (Time to Live)
- B. Port numbers
- C. Encryption keys
- D. LLC

Q34. The Data Link layer resolves access to the shared medium using which technique?

- A. Packet switching
- B. Port addressing
- C. MAC-based access control
- D. Path vector routing

Q35. Which OSI layer is responsible for ensuring that different systems can interpret data formats consistently?

- A. Network
- B. Data Link
- C. Application
- D. Presentation

Q36. Which OSI layer handles the creation and management of virtual circuits?

- A. Transport
- B. Presentation

- C. Data Link
- D. Network

Q37. At which OSI layer does encryption typically occur if performed below the application level?

- A. Presentation
- B. Network
- C. Physical
- D. Session

Q38. Which OSI layer would be responsible for handling checkpointing and recovery during long communication sessions?

- A. Application
- B. Session
- C. Transport
- D. Network

Q39. A router discarding a packet due to TTL expiry is performing a function at which OSI layer?

- A. Transport
- B. Application
- C. Network
- D. Physical

Q40. When data travels through the OSI layers, at each layer it is:

- A. Converted to ASCII
- B. Appended or stripped with layer-specific headers
- C. Translated into voice
- D. Sent without modification