

◆ EASY LEVEL (10 QUESTIONS)

Q1. What is the full form of UTP?

- A. Unshielded Twisted Pair
- B. Unified Twisted Pair
- C. Universal Transmission Port
- D. Unshielded Transmission Port

Q2. STP cables contain which additional feature compared to UTP?

- A. More copper pairs
- B. Shielding
- C. Fiber coating
- D. Wireless interface

Q3. The “e” in CAT5e stands for:

- A. Extended
- B. Enhanced
- C. Extra-shielded
- D. Encapsulated

Q4. CAT6 cable typically supports speeds up to:

- A. 10 Mbps
- B. 100 Mbps
- C. 1 Gbps
- D. 10 Gbps

Q5. Which OSI layer is responsible for routing?

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

Q6. UTP cables are mainly used because they are:

- A. Expensive
- B. Immune to EMI fully
- C. Cheap and easy to install
- D. Fiber-based

Q7. CAT3 cables were historically used for:

- A. Gigabit Ethernet
- B. Token Ring networks
- C. 2G cellular
- D. Satellite connections

Q8. The Data Link layer PDU is called:

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

Q9. STP cables are preferred over UTP in:

- A. Home networks
- B. Areas with high electromagnetic interference
- C. Cloud computing
- D. Gaming environments

Q10. CAT7 cable supports which type of shielding?

- A. No shielding
- B. Only foil shielding
- C. Individual pair + overall shielding
- D. Glass shielding

◆ MEDIUM LEVEL (15 QUESTIONS)

Q11. Which category cable introduced stricter crosstalk specifications over CAT5?

- A. CAT3
- B. CAT5e
- C. CAT7
- D. CAT2

Q12. The main difference between UTP and STP in terms of EMI is:

- A. UTP resists EMI better
- B. STP resists EMI better

- C. Both resist EMI equally
- D. Neither supports EMI resistance

Q13. The maximum length for a CAT5e Ethernet cable is:

- A. 50 meters
- B. 75 meters
- C. 100 meters
- D. 150 meters

Q14. Which OSI layer handles flow control and error control?

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

Q15. What does CAT6a offer that CAT6 does not?

- A. Lower frequency
- B. Higher bandwidth and reduced crosstalk
- C. Shorter transmission distance
- D. No twisted pairs

Q16. UTP cables reduce noise mainly through:

- A. Shielding foil
- B. Braided mesh
- C. Twisting of copper pairs
- D. Optical isolation

Q17. The Presentation layer of the OSI model provides:

- A. Packet forwarding
- B. Data encryption and translation
- C. Port addressing
- D. Switch configuration

Q18. In structured cabling, CAT5e supports what maximum frequency?

- A. 50 MHz
- B. 100 MHz
- C. 200 MHz
- D. 500 MHz

Q19. STP cable shielding typically connects to:

- A. Devices only
- B. Ground
- C. Router memory
- D. Fiber media converters

Q20. In OSI, the layer responsible for establishing and terminating communication sessions is:

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

Q21. CAT1 cable was originally designed for:

- A. Broadband
- B. Ethernet
- C. Voice telephony
- D. Fiber networks

Q22. Multi-layered shielding in cables helps reduce:

- A. Latency
- B. Crosstalk and EMI
- C. Bandwidth
- D. Storage capacity

Q23. Which OSI layer breaks data into packets and performs logical addressing?

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

Q24. CAT7 cables use which connector type typically?

- A. RJ11
- B. RJ45
- C. GG45 or TERA
- D. ST

Q25. Which type of crosstalk does CAT5e significantly minimize?

- A. Power cross
 - B. Alien crosstalk
 - C. Near-end crosstalk
 - D. Voltage crosstalk
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◆ HARD LEVEL (15 QUESTIONS)

Q26. A major drawback of STP cabling in enterprise environments is:

- A. High latency
- B. Higher cost and complicated grounding requirements
- C. Lack of shielding
- D. Fiber dependencies

Q27. CAT8 cable is primarily designed for:

- A. WAN connectivity
- B. 40 Gbps high-performance data centers
- C. Satellite communication
- D. CCTV analog video

Q28. In the OSI model, retransmissions are primarily handled by:

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

Q29. In environments with strong EMI, improper STP grounding can cause:

- A. No impact
- B. Ground loops and signal reflection
- C. Higher bandwidth
- D. Reduced latency

Q30. The maximum transmission frequency of CAT8 cabling is:

- A. 100 MHz
- B. 250 MHz
- C. 500 MHz
- D. 2000 MHz

Q31. Which model layer is responsible for encryption if applied below the Application layer?

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

Q32. UTP performs better in typical indoor installations because:

- A. It blocks EMI fully
- B. It is lightweight, flexible, and cost-effective
- C. It has metal shielding
- D. It uses coaxial insulation

Q33. The main reason CAT7 and CAT8 cables use shielding on each pair is to:

- A. Increase wireless power
- B. Minimize alien crosstalk at high frequencies
- C. Reduce cost
- D. Reduce cable diameter

Q34. Which OSI layer would handle issues related to packet fragmentation and reassembly?

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

Q35. The structured cabling model classifies copper cable categories based on:

- A. Length
- B. Frequency and performance
- C. Connector shape
- D. Jacket material

Q36. Why does CAT6 reduce crosstalk more effectively than CAT5e?

- A. Thicker shielding
- B. Higher twist rate and separation spine
- C. Uses fiber strands
- D. More copper pairs

Q37. The OSI layer that manages dialog control (simplex/half-duplex/full-duplex) is:

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

Q38. A technician notices signal degradation in a noisy industrial area while using UTP. What is the best solution?

- A. Shorten cable length
- B. Replace UTP with STP or shielded CAT6a
- C. Increase NIC speed
- D. Change IP scheme

Q39. In OSI, the Physical layer includes which responsibility?

- A. MAC addressing
- B. Voltage level specification
- C. Routing decisions
- D. Segmentation

Q40. A cable graded for 600 MHz bandwidth most likely belongs to which category?

- A. CAT5
- B. CAT5e
- C. CAT6
- D. CAT7