

Quiz

1. Which of the following protocols is used for secure communication over the Internet, such as for online shopping and banking?

- a. FTP
- b. HTTP
- c. HTTPS
- d. SMTP

Answer: c. HTTPS

2. Which of the following is a connectionless transport layer protocol?

- a. TCP
- b. IP
- c. UDP
- d. HTTP

Answer: c. UDP

3. Which transport layer protocol offers error-checking, flow control, and sequencing of data?

- a. TCP
- b. UDP
- c. ICMP
- d. HTTP

Answer: a. TCP

4. Which protocol is responsible for routing data packets on the Internet?

- a. HTTP
- b. FTP
- c. OSPF
- d. BGP

Answer: d. BGP

5. Which sliding window protocol uses a fixed-size sender window and a variable-size receiver window?

- a. Stop-and-Wait
- b. Go-Back-N

- c. Selective Repeat
- d. Sliding Select

Answer: c. Selective Repeat

6. How many bits are there in an IPv6 address?

- a. 16 bits
- b. 32 bits
- c. 64 bits
- d. 128 bits

Answer: d. 128 bits

7. Which of the following is a valid IPv6 address format?

- a. 192.168.1.1
- b. FE80::1
- c. 255.255.255.0
- d. 172.16.0.1

Answer: b. FE80::1

8. Which routing protocol is a distance-vector routing protocol and uses hop count as the metric for route selection?

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

Answer: b. RIP

9. In RIP (Routing Information Protocol), what is the maximum hop count for a valid route?

- a. 15
- b. 100
- c. 256
- d. There is no maximum hop count in RIP.

Answer: a. 15

10. Which routing protocol is classless and supports VLSM (Variable Length Subnet Masking)?

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

Answer: a. OSPF

11. BGP is categorized as a _____ routing protocol.

- a. Interior
- b. Exterior
- c. Link-state
- d. Distance-vector

Answer: b. Exterior

12. Which of the following is the primary purpose of flow control in computer networks?

- a. To prevent errors in data transmission
- b. To ensure data is delivered in the correct order
- c. To manage the rate of data transmission between sender and receiver
- d. To route data packets across the network

Answer: c. To manage the rate of data transmission between sender and receiver

13. Which error correction technique can not only detect errors but also correct them?

- a. Checksum
- b. Parity bit
- c. Hamming code
- d. Cyclic Redundancy Check (CRC)

Answer: c. Hamming code

14. In the context of error control, what is a "parity bit"?

- a. A mechanism for preventing network congestion
- b. A control message used in flow control
- c. A single bit added to data to detect errors
- d. A type of routing algorithm

Answer: c. A single bit added to data to detect errors

15. What type of Ethernet cable is commonly used for Gigabit Ethernet connections?

- a. Category 5e (Cat5e)
- b. Coaxial cable
- c. Fiber optic cable
- d. Category 3 (Cat3)

Answer: c. Fiber optic cable

16. Which technology is used to detect and resolve collisions in Ethernet networks?

- a. ARP (Address Resolution Protocol)
- b. CSMA/CD (Carrier Sense Multiple Access with Collision Detection)
- c. TCP (Transmission Control Protocol)
- d. BGP (Border Gateway Protocol)

Answer: b. CSMA/CD (Carrier Sense Multiple Access with Collision Detection)

17. What is the purpose of a "token" in a Token Ring network?

- a. To authorize access to the network
- b. To transmit data packets
- c. To identify network devices
- d. To manage network collisions

Answer: a. To authorize access to the network

18. Which of the following is an example of a VRC scheme?

- a. Parity bit
- b. Cyclic Redundancy Check (CRC)
- c. Hamming code
- d. Longitudinal Redundancy Check (LRC)

Answer: a. Parity bit

19. Which is the default transport layer protocol used by the World Wide Web (WWW)?

- a. UDP
- b. HTTP
- c. FTP
- d. TCP

Answer: d. TCP

20. In which scenario is UDP commonly used?

- a. Secure online banking
- b. Video conferencing and online gaming
- c. Web page retrieval using HTTP
- d. File transfer with FTP

Answer: b. Video conferencing and online gaming

21. TCP is a _____ protocol.

- a. Connectionless
- b. Connection-oriented
- c. Reliable
- d. Encrypted

Answer: b. Connection-oriented

22. Which HTTP method is typically used to retrieve data from a web server?

- a. POST
- b. PUT
- c. GET
- d. DELETE

Answer: c. GET

23. Which of the following protocols is responsible for ensuring the reliable and error-free transfer of data in the Transport Layer of the OSI model?

- a. HTTP
- b. FTP
- c. TCP
- d. UDP

Answer: c. TCP

25. Which routing algorithm calculates the shortest path in a network using a link-state database?

- a. OSPF

- b. RIP
- c. BGP
- d. EIGRP

Answer: a. OSPF

26. Which protocol is used for securely transferring files over a network?

- a. HTTP
- b. FTP
- c. SMTP
- d. POP3

Answer: b. FTP

27. Which routing protocol is commonly used within an autonomous system (AS) and is based on link-state information?

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

Answer: a. OSPF

28. Which routing algorithm is used by RIP (Routing Information Protocol)?

- a. Dijkstra's algorithm
- b. Bellman-Ford algorithm
- c. Link-State algorithm
- d. Distance-Vector algorithm

Answer: d. Distance-Vector algorithm

29. What does "FTP" stand for in computer networking?

- a. File Transfer Protocol
- b. Fast Transport Protocol
- c. Firewall Transfer Protocol
- d. File Transmission Program

30. What does "URL" stand for in the context of the World Wide Web?

- a. Uniform Resource Locator
- b. Universal Routing Link
- c. Unified Resource Locator
- d. Unique Resource Link

Answer: a. Uniform Resource Locator

31. In a network with a latency of 40 milliseconds, how long does it take to establish a TCP connection (considering the 3-way handshake)?

- a. 10 milliseconds
- b. 20 milliseconds
- c. 40 milliseconds
- d. 80 milliseconds

Answer: d. 80 milliseconds

32. If you have a network with a bandwidth of 10 Mbps and a one-way propagation delay of 10 milliseconds, what is the maximum achievable throughput using the Stop-and-Wait protocol?

- a. 1 Mbps
- b. 2 Mbps
- c. 5 Mbps
- d. 10 Mbps

Answer: a. 1 Mbps

33. If the round-trip time (RTT) between two hosts is 40 milliseconds and the bandwidth is 100 Mbps, what is the maximum achievable throughput using the TCP protocol?

- a. 10 Mbps
- b. 20 Mbps
- c. 40 Mbps
- d. 100 Mbps

Answer: c. 40 Mbps