

Introduction to Internet Architecture and Protocols

Computer Networks · Practice Test · 30 Questions

1. What is a computer network?

- A) A system of interconnected computers that can share resources and data.
- B) A single computer with internet access.
- C) A group of routers and switches.
- D) A wired communication channel.

2. Which of the following are components of a computer network?

- A) Nodes and Links
- B) Servers and Clients
- C) Routers and Switches
- D) Wired and Wireless channels.

3. What does LAN stand for?

- A) Local Area Network
- B) Large Area Network
- C) Logical Access Network
- D) Limited Access Network.

4. Which of the following is NOT a benefit of computer networks?

- A) Increased hardware costs
- B) Resource sharing
- C) Communication
- D) Access to remote data.

5. How is data transferred across the internet according to the basic working principle?

- A) Data is broken into packets, sent, and reassembled.
- B) Data is sent as a continuous stream.
- C) Data is encrypted and then sent.
- D) Data is transferred directly from source to destination.

6. How many layers are in the OSI Model?

- A) 7
- B) 4
- C) 5
- D) 3.

7. How many layers are in the TCP/IP Model?

- A) 4
- B) 7
- C) 5
- D) 3.

8. Which layer in the TCP/IP model provides network services directly to applications?

- A) Application Layer
- B) Transport Layer
- C) Internet Layer
- D) Link Layer.

9. Which protocol is responsible for ensuring reliable data transfer in the TCP/IP model?

- A) TCP
- B) UDP
- C) IP
- D) HTTP.

10. What is the primary function of the Internet Layer in the TCP/IP model?

- A) Packet routing across networks
- B) Providing network services to applications
- C) Ensuring reliable end-to-end communication
- D) Physical transmission of data.

11. Which layer in the TCP/IP model deals with the physical transmission of data between devices on the same network?

- A) Link Layer
- B) Application Layer
- C) Transport Layer
- D) Internet Layer.

12. Which devices are typically responsible for the Internet Layer in the TCP/IP model?

- A) Routers
- B) Servers
- C) PCs
- D) Modems.

13. What protocol is used for domain name resolution in the TCP/IP suite?

- A) DNS
- B) HTTP
- C) FTP
- D) SMTP.

14. During TCP/IP data transfer, what happens at the Transport Layer?

- A) Segmentation and sequencing via TCP/UDP
- B) Packet routing
- C) Framing and transmission
- D) Data generation.

15. What is the purpose of the 'ping' command?

- A) To show round-trip time of packets and confirm connectivity.
- B) To transfer files between computers.
- C) To send emails.
- D) To browse websites.

16. What is a network protocol?

- A) A set of rules and conventions for communication between network devices.
- B) A physical cable connecting devices.
- C) A type of network hardware.
- D) A software application.

17. Which of the following is an example of a communication protocol?

- A) TCP
- B) HTTP
- C) DNS
- D) FTP.

18. TCP is described as being:

- A) Connection-Oriented
- B) Connectionless
- C) Stateless
- D) Unreliable.

19. UDP is described as being:

- A) Connectionless
- B) Connection-Oriented
- C) Reliable
- D) Flow Controlled.

20. Which protocol is primarily used for transferring web pages?

- A) HTTP
- B) FTP
- C) SMTP
- D) DNS.

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

- A) FTP
- B) HTTP
- C) SMTP
- D) ICMP.

22. Which protocol is used for sending email between servers?

- A) SMTP
- B) HTTP
- C) FTP
- D) DNS.

23. Which protocol is used for error messages and diagnostics?

- A) ICMP
- B) TCP
- C) UDP
- D) HTTP.

24. What is a key characteristic of TCP compared to UDP?

- A) Reliability
- B) Speed
- C) Lower overhead
- D) Connectionless operation.

25. What is a key characteristic of UDP compared to TCP?

- A) Speed
- B) Reliability
- C) Connection-oriented operation
- D) Flow control.

26. HTTP uses which transport layer protocol for reliable data transfer?

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

27. FTP uses separate channels for which two functions?

- A) Commands and file transfer
- B) Sending and receiving
- C) User authentication and data encryption
- D) Request and response.

28. What is a common use case for DNS?

- A) Resolving domain names to IP addresses
- B) Sending email
- C) Transferring files
- D) Browsing websites.

29. Which protocol operates at the network layer in the TCP/IP model and is used for diagnostics like Ping?

- A) ICMP
- B) TCP
- C) UDP
- D) HTTP.

30. How does Dropbox utilize the TCP/IP layers for its functionality?

- A) Uses TCP for reliable file transfers and sync accuracy.
- B) Relies on UDP for all data transfers.
- C) Only uses the Application Layer for all operations.
- D) Primarily uses the Link Layer for data creation.