

1.The primary function of the Transport Layer is:

- a)** Node-to-node delivery
- b)** Process-to-process delivery
- c)** Updating routing tables
- d)** Network speed control

2.What is the main difference between TCP and UDP?

- a)** TCP is faster than UDP
- b)** UDP is connection-oriented
- c)** TCP is connection-oriented, while UDP is connectionless
- d)** UDP is used for file transfer, while TCP is used for streaming

3. Which transport layer protocol is considered "connectionless" and primarily used for low-latency applications?

- a)** TCP
- b)** UDP
- c)** HTTP
- d)** FTP

4. Which of the following is not a function of the network layer?

- a)** Routing
- b)** Congestion control
- c)** Error control
- d)** Inter-networking

5.What is the combination of an IP address and a port number known as?

- a)** Network number
- b)** Socket address
- c)** Subnet mask
- d)** MAC address

6. Suppose you are browsing the world wide web using a web browser and trying to access the web servers. What is the underlying protocol and port number that are being used?

- a)** UDP, 80
- b)** TCP, 80
- c)** TCP, 25
- d)** UDP, 25

7. Which of the following is not a field in TCP header?

a. Sequence number

b. Fragment offset

c. Checksum

d. Window size

8.In the slow start phase of the TCP congestion control algorithm, the size of the congestion window:

- a.**does not increase
- b.**increases linearly
- c.**increases quadratically
- d.**increases exponentially

9. During Congestion Avoidance, the congestion window increases:

- a.** Exponentially
- b.** Linearly
- c.** Logarithmically
- d.** Not at all

10. Which of the following statements are TRUE?

(S1) TCP handles both congestion and flow control

(S2) UDP handles congestion but not flow control

(S3) Fast retransmit deals with congestion but not flow control

(S4) Slow start mechanism deals with both congestion and flow control

a. S1, S2 and S3 only

b. S1 and S3 only

c. S3 and S4 only

d. S1, S3 and S4 only

11. What is the typical range of Ephemeral ports?

a. 1 to 80

b. 1 to 1024

c. 80 to 8080

d. 1024 to 65535

12. FTP server listens for connection on port number

a. 20

b. 21

c. 22

d. 23

13. Suppose two IPv6 nodes want to interoperate using IPv6 datagrams but are connected to each other by intervening IPv4 routers. The best solution here is

- a.** use dual-stack approach
- b.** Tunnelling
- c.** No solution
- d.** Replace the system

14. Which of the Following is not a Transport Layer Protocol of the TCP/IP Model?

a.UDP

b.BOOTP

c.TCP

d.SCTP

15. What is the Size of the UDP Packet Header in the Transport Layer?

a. 8 bytes

b. 16 bytes

c. 20 bytes

d. 12 bytes

16. What is the Next Action in the UDP Protocol if Data is Lost in the Middle?

- a.** It will retransmit until it reaches its destination.
- b.** It will no longer send packets.
- c.** It will ignore and send the next packet.
- d.** None of the above

17. Which One of the Following Protocols Utilizes both TCP and UDP?

a.SMTP

b.FTP

c.DNS

d.Telnet

18. Which Transport Layer (layer 4) Protocol is Used for a Telnet Connection?

a. IP

b. UDP

c. TCP

d. SMTP

- 19.** The Transport Layer (layer 4) Protocols used for File Transfer, DNS, and Email, respectively, are
- a.** UDP, TCP, and UDP
 - b.** UDP, UDP, and TCP
 - c.** TCP, UDP, and TCP
 - d.** TCP, TCP, and UDP

20. Which routing algorithm suffers from the count-to-infinity problem?

a. Link State

b. Distance Vector

c. Dijkstra

d. Flooding

21. Dijkstra's algorithm is used in:

- a.** Link State Routing
- b.** Distance Vector Routing
- c.** Path Vector Routing
- d.** Hierarchical Routing

22. The routing protocol used for inter-AS (between autonomous systems) routing is:

a. RIP

b. OSPF

c. BGP

d. IGRP

23. Which of the following is a private IP address?

a. 8.8.8.8

b. 172.16.5.4

c. 192.0.2.1

d. 200.1.1.1

24. Which of the following is NOT a TCP flag?

a. SYN

b. ACK

c. FIN

d. TRY

- 25.** The field used to reassemble out-of-order TCP segments is:
- a.** ACK number
 - b.** Window size
 - c.** Sequence number
 - d.** Offset

- 26.** What is the purpose of the Fragment Offset field?
- a.** To indicate the TTL
 - b.** To specify the order of fragments
 - c.** To indicate the protocol type
 - d.** To verify checksum

27. The loopback IPv4 address is:

a. 0.0.0.0

b. 127.0.0.1

c. 255.255.255.255

d. 192.168.0.1

28. Which protocol is used to discover MAC address from IP?

- a.** ICMP
- b.** ARP
- c.** DHCP
- d.** DNS

- 29.** Which of the following is NOT a function of IP?
- a.** Routing
 - b.** Addressing
 - c.** Flow control
 - d.** Fragmentation

30. ICMP Echo Request and Echo Reply are used by:

- a.** Ping
- b.** Traceroute
- c.** ARP
- d.** Telnet