

Networks Final

1) If an IPv4 packet has arrived with the first 8 bits as shown:
01000110 The receiver will discard the packet.

- a. True
- b. False

2) In Wireless LANs, The CTS frame in CSMA/CA handshake cannot prevent collision from a hidden station.

- a. True
- b. False

3) A network that connects hosts within the same building is considered WAN.

- a. True
- b. False

4) The data flow between two devices can be half or full duplex only.

- a. True
- b. False

5) In data link control, most of the channels tend to be noisy.

a. True

b. False

6) Microwaves signals are used for short range communication in a closed area.

a. True

b. False

7) ARP request is a unicast.

a. True

b. False

8) If an IPv4 packet arrives with $M=0$, then it will be the last fragment.

a. True

b. False

9) A network topology that requires central hub is called Bus topology

a. True

b. False

10) If the least significant bit of the first byte in Ethernet address is zero, then it will be a unicast address.

- a. True
- b. False

11) A process has a socket address 200.23.56.8:15550 wants to connect to another process with socket address 200.23.56.8:65550, which of the following is correct

- a. The communication will be successful
- b. There is an error with this setting
- c. The communication will be established regardless if there is an error or not
- d. The communication will be established but no data will be transmitted
- e. None of the above

12) If a host in a network has an ipv4 address 144.17.37.39 /21. What is the first IP address in the network?

- a. 144.16.32.0
- b. 144.17.32.0
- c. 144.17.37.0
- d. 144.16.37.0
- e. 144.17.30.0

13) If a network with a mask /24. How many hosts can be existing in this network?

- a. 256
- b. 265
- c. 514
- d. 1024
- e. 16777216

14) Which of the following is correct:

- a. SNMP uses only UDP
- b. FTP uses only UDP
- c. SCTP uses TCP only
- d. HTTP uses UDP only
- e. None of the above

15) To check if a remote server is working, we can use

- a. Netsat
- b. ipconfig
- c. ping
- d. rtable
- e. None of the above

16) In distance vector routing algorithm, if router A wants to forward a packet to router E and given the following information:

A to B cost = 5

B to E cost = 3

A to C cost = 4

C to E cost = 6

A to D cost = 6

D to E cost = 1

Based on the given information, which next hop should router A choose:

- a. B
- b. C
- c. A
- d. D
- e. None of the above

17) One of the following techniques is used in order to reduce the number of simultaneous requests on the web server is

- a. Cache memory
- b. Backup server
- c. Proxy server
- d. Primary serve
- e. All of the above

18) If a host in a network has an ipv4 address 205.16.37.39 /26 . What is the range of all IP addresses within this network including the hosts and the broadcast addresses?

- a. 205.16.37.0 – 205.16.37.60
- b. 205.16.37.0 – 205.16.37.61
- c. 205.16.37.0 – 205.16.37.62
- d. 205.16.37.0 – 205.16.37.63
- e. 205.16.37.0 – 205.16.37.64

19) If an IPv4 packet has arrived with the first 10 bytes represented in hexadecimal digits as

0x45000028000100000306

Then which of the following is correct?

- a. The packet has travelled 6 hops and it is TCP
- b. The packet has travelled 6 hops and it is UDP
- c. The packet has travelled 30 hops and it is TCP
- d. The packet has travelled 3 hops and it is UDP
- e. The packet has travelled 3 hops and it is TCP

20) Quality of service in networks is important for what of the following

- a. Improving the quality of network links
- b. Giving priorities for traffic going through the network
- c. Improving the quality of network routers
- d. Increasing the bandwidth of the network
- e. All of the above

21) In DNS name-address resolution, the algorithm sends the request for many servers until it reaches to the server that has the authority of the requested domain name. This process is:

- a. Linear resolution
- b. Sequential resolution
- c. Recursive resolution
- d. Exponential resolution
- e. None of the above

22) In web servers that provide HTML documents over the web, in case the server runs a script in order to respond to the client request, the output document will be

- a. Static b. Dynamic c. Active d. B and C e. None of the above

23) If host X sends an email to host Y, user on host X will compose and click send. Which of the following is true

- a. X will use Message transfer agent to compose the message, POP3 protocol can be used to send the message, and SMTP protocol can be used to access the email by Y
- b. X will use Message transfer agent to compose the message, SMTP protocol can be used to send the message, and POP3 protocol can be used to access the email by Y
- c. X will use user agent to compose the message, POP3 protocol can be used to send the message, and IMAP4 protocol can be used to access the email by Y
- d. X will use user agent to compose the message, SMTP protocol can be used to send the message, and IMAP4 protocol can be used to access the email by Y
- e. None of the above

24) What reason(s) of the following can be main cause (s) of network congestion?

- a. Many processes are running at the same time at a particular host
- b. Many routers are connecting the network
- c. A process is sending too much packets through the network
- d. All of the above
- e. A and B

25) When a host connects to the network, it has to have a unique address that distinguishes it from other hosts.

Which of the following can grant the host this address?

- a. The host itself
- b. DNS
- c. TCP/IP
- d. OSPF
- e. DHCP

26) In order to upload a file to a server, which of the following should be made?

- a. establish a control connection on port 21 and a data connection of port 20 and both have to be TCP
- b. establish a control connection on port 20 and a data connection of port 21 and both have to be TCP
- c. establish a control connection on port 21 and a data connection of port 20 and both have to be UDP
- d. Establish only a data connection on port 21 and has to be UDP
- e. Establish only a data connection on port 20 and has to be TCP

27) If an IPv4 packet was fragmented and one of the fragments has a total length = 25 (assuming that there are no options) and has fragmentation offset = 10. Then what will be the range of the data bytes that are included in this fragment:

- a. 40 – 65
- b. 80 – 100
- c. 80 – 105
- d. 80 – 84
- e. 80 – 85

28) Which of the following is true when a connection is established between a client and a server on port number 80 at the server:

- a. The connection should be immediately closed after the first response is received by the client
- b. The connection cannot be established with the server at the port number 80
- c. The connection should be established using TCP protocol
- d. The connection should be left open for further requests
- e. C and D

29) If Host A sends a TCP segment to Host B with a PSH flag = 1, ACK flag = 1, and sequence number = 441. Host B then sends a TCP segment to Host A with a ACK flag = 1 and ACK number = 449. Then, what range of bytes was received by Host B this segment that was sent from Host A to Host B?

- a. 441 – 448
- b. 441 – 449
- c. 441 – 450
- d. 440 – 449
- e. 440 – 448

30) UDP and TCP are very important protocols in data communication, which of the following applies on the two protocols

- a. TCP header length is larger than the UDP header length
- b. UDP is faster than TCP and more reliable
- c. both UDP and TCP use sliding window
- d. TCP is more reliable than UDP. Also, TCP segments are not ordered at the destination process
- e. None of the above

Suggested Answers:

1	B	11	B	21	C
2	B	12	B	22	B
3	B	13	A	23	D
4	B	14	E	24	D
5	A	15	C	25	E
6	B	16	D	26	A
7	B	17	C	27	C
8	A	18	D	28	E
9	B	19	E	29	A
10	A	20	B	30	A