The MAC address: 47:20:40:22:1E:EB is from which of the following types:

○ a. Unicast

○ b. Broadcast

◉ c. Multicast

○ d. A and B

○ e. None of the above

Clear my choice

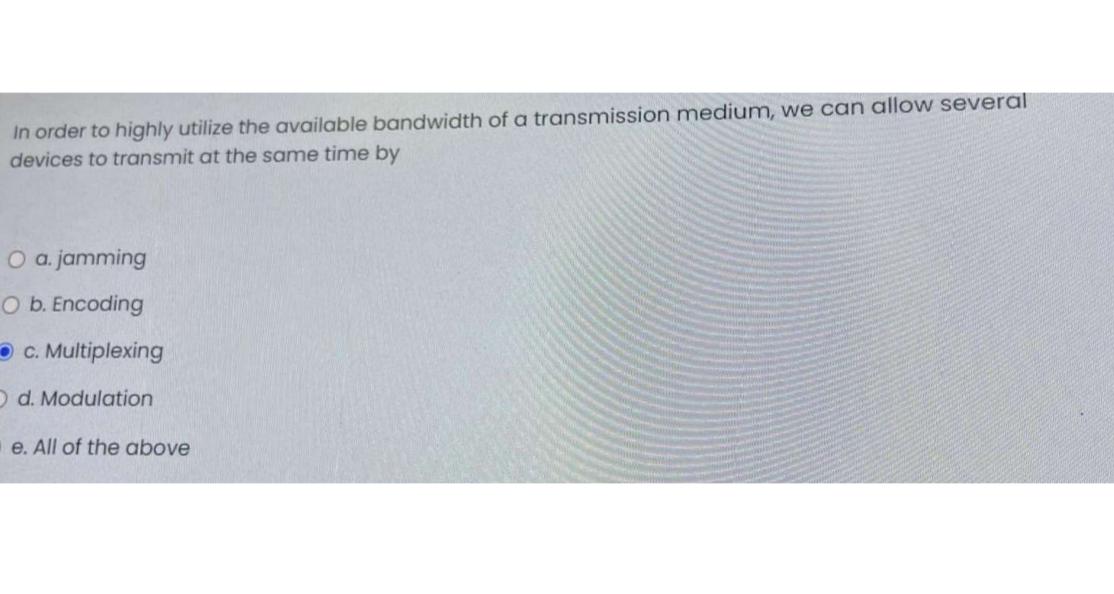Which of the following statements is the most correct in network topologies

O a. Token ring topology is similar to star topology

O b. Start topology involves using a token when a station wants to send a data

O c. Ring topology involves using a switch for connecting different stations

O d. Many star segment can be connected with a ring topology network in hybrid topology
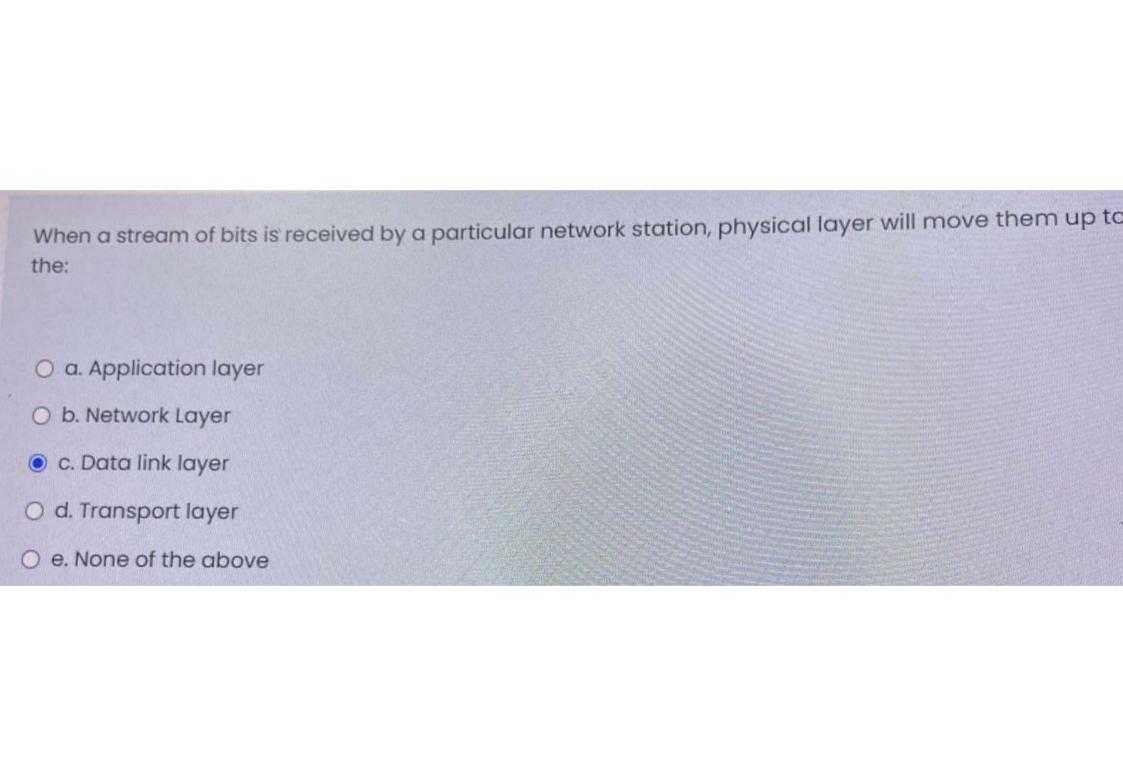
● e. None of the above

A network bandwidth of 100bps can pass 10 frame per second where each frame can carry 5 bits, the throughput of this network is:

O a. 100bps

O b. 10bps

O c. 5bps

O d. 20bps

● e. 50bps

In bit-oriented protocol frame, which of the following is correct

○ a. bit stuffing adds more bit on send in order to distinguish the data from the flag

○ b. bit stuffing adds more bit on receive in order to distinguish the data from the flag

○ c. bit stuffing changes the content of the flags at the end of the frame

○ d. bit stuffing adds one extra 1 whenever five consecutive 1s follows a 0 in the data

● e. A and D

In order to highly utilize the available bandwidth of a transmission medium, we can allow several devices to transmit at the same time by

○ a. jamming

○ b. Encoding

◉ c. Multiplexing

○ d. Modulation

○ e. All of the above

When a stream of bits is received by a particular network station, physical layer will move them up to the:

O a. Application layer

O b. Network Layer

● c. Data link layer

O d. Transport layer

O e. None of the above

In Go Back-N error control protocols, which of the following is correct

O a. The sequence number of an acknowledgment is the same of the currently received frame

● b. The receiver window size can be more than one

O c. The sender window size is equal to one

O d. The receiver window size is equal to one

O e. The sequence number of an acknowledgment is the same of the previously received frame

Which of the following is the fastest in terms of transmission speed

O a. UTP Cat2

O b. UTP Cat3

O c. UTP Cat5

O d. Coaxial Cable

O e. Optical fiber

If a periodic signal has a bandwidth of 80 kHz and the lowest frequency is 50, then the highest frequency is equal to:

○ a. 130

○ b. 120

○ c. 140

○ d. 200

○ e. 110

The most important difference between TCP/IP and OSI Model is

O a. OSI model consists of five layers whereas the TCP/IP consists of seven layers

O b. TCP/IP and OSI are exactly the same

O c. TCP/IP is much older than OSI model

● d. TCP/IP combines the upper layers in one layer where the OSI does not

O e. None of the above

Which of the following types of switching systems has a delay at each router for determining the direction of each packet
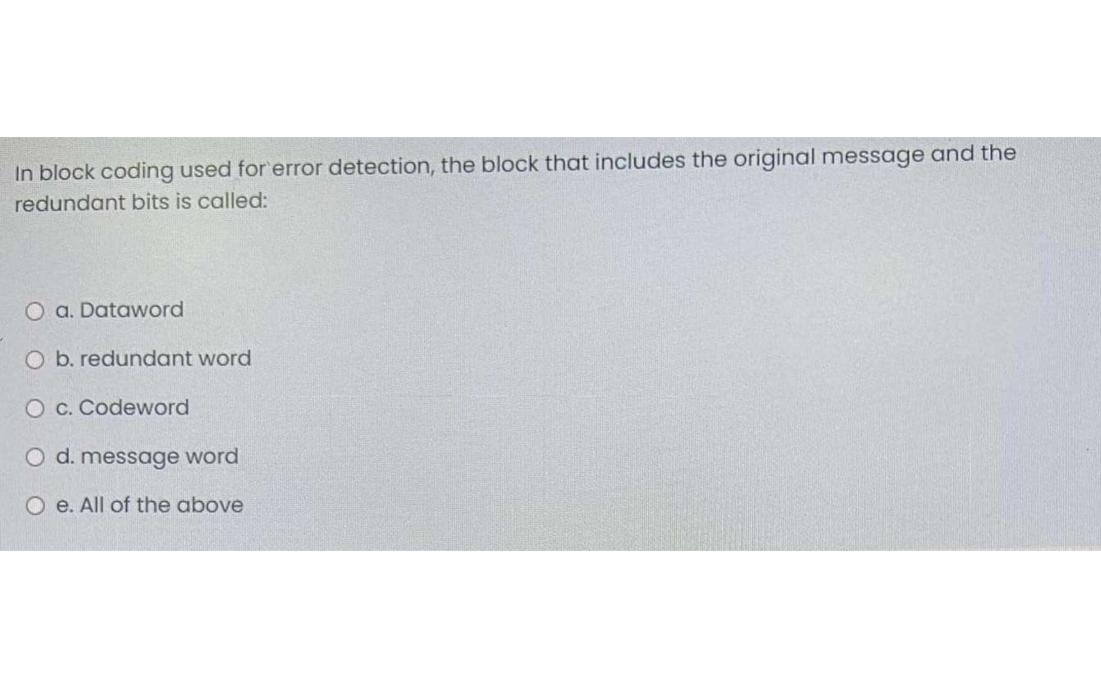
⦿ a. Datagram network

○ b. Circuit switching network

○ c. Both Datagram and Circuit switching networks

○ d. Telephone network

○ e. None of the above

Which of the following is correct on data link error control

◉ a. Stop and wait ARQ highly utilize the capacity of the link

○ b. Stop and wait ARQ under-utilize the capacity of the link

○ c. Go back-N under-utilize the capacity of the link

○ d. There is no relationship between the error control protocol with the utilization of the link

○ e. None of the above

In order to transmit the data over a network medium

● a. Composite periodic signal wave is enough to carry all the data need to be transmitted

○ b. Periodic sine wave is enough to carry all the data need to be transmitted

○ c. Simple sine wave is enough to carry all the data need to be transmitted

○ d. Non-periodic composite is not enough to carry all the data need to be transmitted

○ e. All of the above

If a wave frequency = 10, then the wave period equals to

○ a. 10

● b. 0.1

○ c. 1

○ d. 0

○ e. None of the above

In block coding used for error detection, the block that includes the original message and the redundant bits is called:

O a. Dataword

O b. redundant word

O c. Codeword

O d. message word

O e. All of the above

Which of the following is correct regarding the noisy and noiseless channels

○ a. Noisy channel data rate limit is calculated by bit rate

● b. Noiseless channel data rate limit is calculated by bit rate

○ c. Noiseless channel data rate limit is calculated by capacity

○ d. Noisy channel has no data rate limit calculations

○ e. None of the above

In Wireless LAN network, which of the following applies on the handshaking process that helps to prevent the hidden station problem

○ a. The sender sends clear to send frame and the others send request to send frame

○ b. All stations send clear to send and request to send frames

● c. The sender sends request to send frame and the others send clear to send frame

○ d. Request to send and clear to send control messages are not used in hidden station problem

○ e. None of the above

Sampling, quantizing and encoding are used in which of the following techniques:

● a. Pulse code modulation

○ b. Delta Modulation

○ c. Time division multiplexing

○ d. NRZ-I

○ e. None of the above

A signal travels through an amplifier and its power increased 100 times, how much gain of power the signal has received

- a. 5dB
- b. 10dB
- c. 15dB
- d. 20dB
- e. None of the above

NRZ line coding scheme is used for

○ a. Digital to digital transformation

○ b. Analog to digital transformation

○ c. Digital to Analog transformation

○ d. Analog to Analog transformation

○ e. None of the above