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Question No: 2

ANS

Seven layers in the OSI model
1) Application layer:

Application layer is responsible for providing networking services like web browsing, skype, gmail etc and have using protocols like FTP = file transfer, web serving = HTTP, Email = SMTP.

* Presentation layer

presentation layer receives data from application layer. this layer work is to change Alphabets and digits into machine language (Binary) eg conversion of ASCII to EBCDIC. It is also used for data compression encoding etc.

* Session layer:

session layer, enabling and managing data in this layer, server performs authentication and Authorization for access the page.

*) Transport layer:

In transport the data are segmented into small units.

Network layer:

In this layer route decide to more packet to the

12/06
detect and correct errors is referred to as error control.

Q No 5

ANS

To improve the efficiency of broadcastional transmission when a frame is carrying data from A to B for that piggy backing is used to carry also carry control information about frames from B. when a frame is carrying data from B to A it can also carry control information about frames from A.

Q No 6:

ANS:

Station types:

We have one primary station and multiple secondary stations can only respond.

Transfer modes:

HSR provides two transfer modes that can be used in different configurations

- 1) normal respond mode
- 2) asynchronous balanced mode.

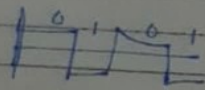
Frames types:

- 1) information frame
- 2) control frame

1) NRZ-L:-

in (non-return to zero) the frequency line in binary 0 goes up and in binary 1 goes down. in transmission the frequency line will

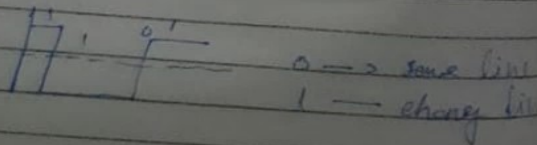
Example:
bit stream



2) NRZ-I:-

in non return to 0 the frequency line in binary 0 will goes in same line direction and in binary 1 it will change line direction in transmission.

Example:



* Coding schemes of multi level binary and Biphase.
ANS:

3) Flag field purpose:

The flag field of an HDLC frame is an 8 bit sequence with the bit pattern 01111110 that identifies both the beginning and the end of a frame and serves as a synchronization pattern of the receiver.

Q No 7:

ANS:

- Noiseless and noise channel protocols
- Priority of protocols
- Simplest protocol
- Stop-and-wait protocol
- Noisy channel
- Sequence numbers
- Design of the stop-and-wait ARQ protocol
- stop-and-wait ARQ protocol
- Sliding window for Go-Back-N ARQ ETC

Q No 8:

ANS:

Differential encoding:

The encoding in which the signal represent binary data in such a way and changes to succeeding values with the respect of signal represent.

Q No 1

ANS: the network support layers
1) physical layer
2) data link layer
3) network layer

Q No 2

ANS: three types of transmission impairment
are
1) attenuation
2) distortion
3) noise

Q No 3:

ANS: The channel capacity determines the theoretical maximum bit rate of a noisy channel.

Q No 4:

ANS: Flow control:

Flow control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment.

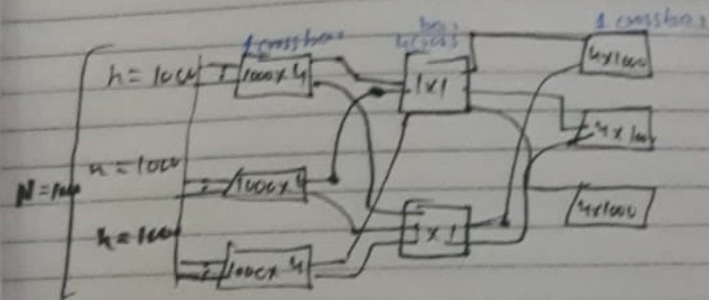
congestion control

a set of control used

$$N = 1000 - 1$$

$$N = 1000$$

$k = 4$



b)

The total number of cross-points
 $= 1(1000 \times 4) \times 4(4 \times 4) + 1(4 \times 1000)$
 $= 8004$ cross points

c) possible number of simultaneous connections.

ANS

The total number of simultaneous connections is 4000 only four connections are possible for first stage.

Data link layer:

accessing the media that how data is placed and receive from the medium.

*physical layer:

physical layer convert Binary bits into signal and transmit over local media and received signals and converted into bits.

Q No 2 (part B)

Ans

The amplitude of a signal measure the value of a signal at any point. The frequency of signal refers to the number of periods in one second.

Q No: 3:

Ans

$$= 8/100$$

$$= 0.08s$$

$$= 8m/s$$

Q No 3-part (B)

Ans