

① 1:- ANSI-

② 1- The number of different colours you can represent with 16 bits is 2^{16} , or about 65K colours.

2- The number of cables needed are $6 \times 5 = 15$ and each device needs to be connected 2 to 5 other devices so each device needs to have 5 ports. Now six devices times five ports equals 30 total ports.

3 - ③ FIVE DEVICES ARRANGED IN A MESH TOPOLOGY:-

Mesh is high redundancy only one device would be disconnected if all the connections were to fail for that device. you can have many connections to other devices that's why it's less likely to fail. the only cause of failure at this point is really the power and if you just don't have any. Even if one of the connections between two devices fail there is no effect on network and they can still communicate through other channel.

FIVE DEVICES ARRANGED IN A STAR TOPOLOGY:-

④ Star runs to a central device like a switch, so if the switch itself fails then the whole network will be disconnected.

FIVE DEVICES ARRANGED IN A BUS TOPOLOGY :-

(c) Bus runs in a straight line from one network device to another so if one gets disconnected then all devices connected down the line get disconnected.

FIVE DEVICES ARRANGED IN A RING TOPOLOGY :-

(d) Ring is like a bus except it connects back onto itself. So if there is one device fails they all fail. The exception is if there is a redundant inside ring like that used in FDDI then if both get disconnected from one device then they all do.

ANS :-

(4) it is true that performance is inversely proportional to delay.

(a) SENDING AN E-MAIL :-

Sending an email is more sensitive to delay than copying a file & surfing the internet. Because E-mailing may be interrupted due to high latency. but can always assume as soon as the server is performing again without interaction.

(b) COPYING A FILE :-

Copying a file is less sensitive to delay than surfing the web and sending an email.

© SURFING THE INTERNET :-

Surfing the web is not so much affected by delay because due to effect of latency on surfing the net.

ANS:-

⑤ a) ROUTE DETERMINATION :-

Network layer (Layer 3)

⑥ b) FLOW CONTROL :-

Transport layer & data link layer.
(Layer 4)

⑦ c) INTERFACE TO TRANSMISSION MEDIA :-

physical layer (Layer 1)

⑧ d) PROVIDES ACCESS FOR THE END USER :-

Application layer (Layer 7)

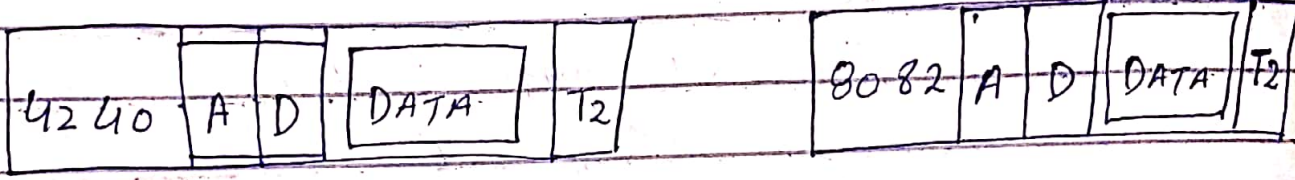
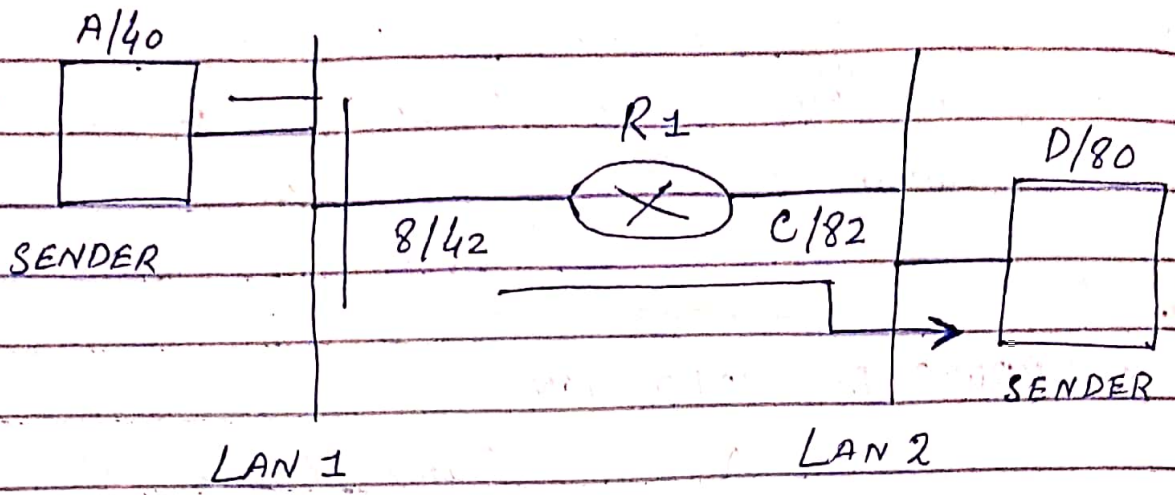
Q3

ANS:-

The function of dialog control and synchronization are associated with the session layer (Layer 3) of the OSI model that is equivalent to layer 4 of the TCP/IP model since it essentially comprises layers 5 to 7 of the OSI model into the application layer of the TCP/IP model.

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(a) ANS



(b) ANS.

