

Brac University
CSE320: Data Communications
Summer 2023
Quiz 1

Duration: 40 minutes

Total Marks: 20

CO1	Name:	ID:	Section:
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Question 1 [6]

Label the frames (1 & 2) shown below in Figure No. 1 with appropriate **Port, IP and MAC** addresses. The sender Host A has two applications running; one for FTP with port number **51024** and the other for accessing the web server with port number **52348**. The frames shown are all intended for the web server from Host A. Web servers use port number **80** to send data to clients. (For indicating MAC addresses just mention the device name).

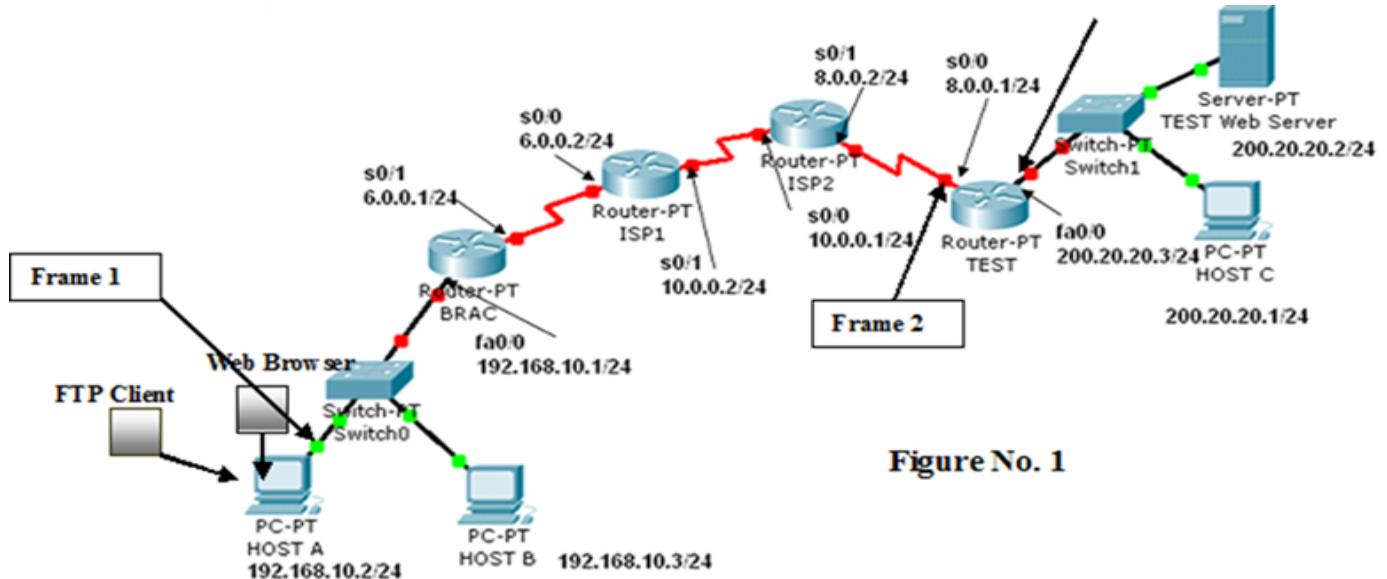


Figure No. 1

D.MAC	S.MAC	D.IP	S.IP	D.Port	S.Port	Frame 1

D.MAC	S.MAC	D.IP	S.IP	D.Port	S.Port	Frame 2

Question 2 [5]

Identify the name of the OSI model layers based on the following functionalities.

- i. Responsible for reducing the size of data at each hop →
- ii. Responsible for converting data into signals that can be transmitted over a physical medium →
- iii. Routing and forwarding data packets between different networks →
- iv. Establishing and terminating communication sessions →
- v. The layer responsible for giving service to the user →

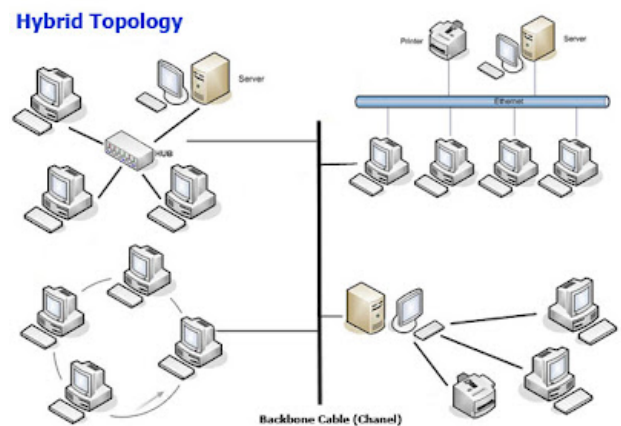
Question 3 [4]

In source-to-destination delivery of the packets and hop-to-hop delivery of the frames, mention the name of the layers responsible for the above tasks. Also, mention the kind of address is added in the PDU of each layer.

Question 4 [3+2]

Identify the topologies with their count from the given hybrid topology.

Is there any point-to-point and/or multipoint connection from the given hybrid topology? If yes, **explain** briefly.



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Question 1 [6]

Label the frames (1 & 2) shown below in Figure No. 1 with appropriate **Port, IP and MAC** addresses. The sender Host A has two applications running; one for FTP with port number **51024** and the other for accessing the web server with port number **52348**. Frame 1 is coming from the TEST web server to HOST A and Frame 2 is intended for the web server from Host A. The web server uses port number 80 to send data to clients. (For indicating MAC addresses just mention the device name).

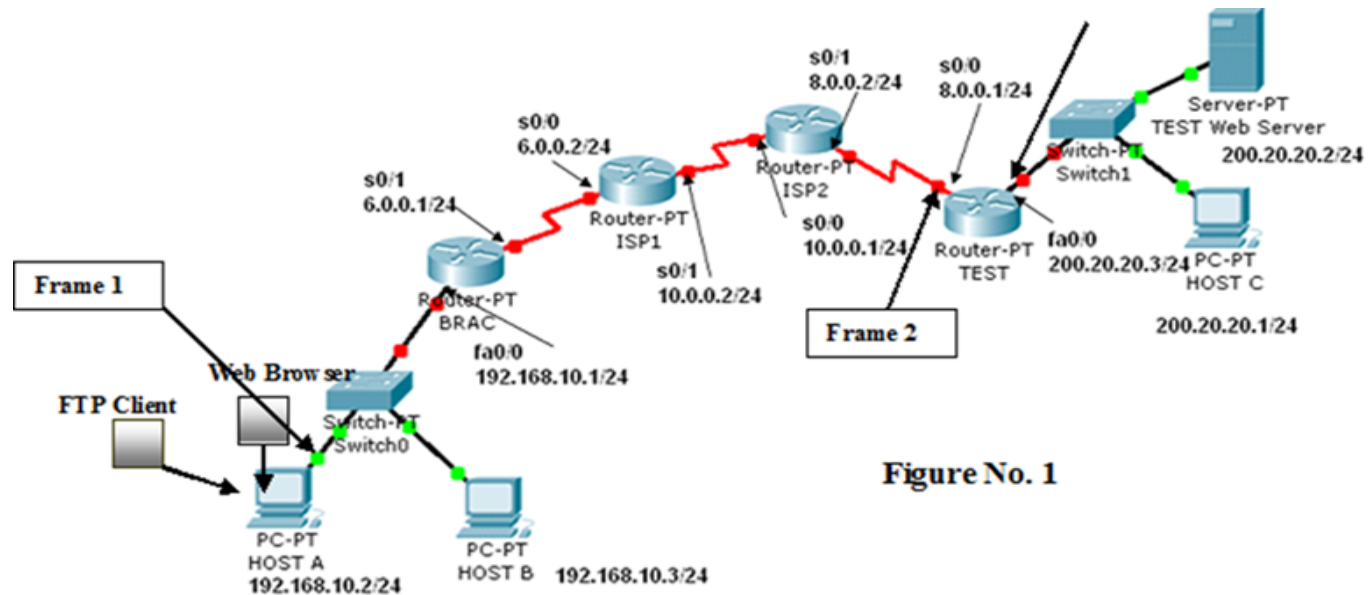


Figure No. 1

D.MAC	S.MAC	D.IP	S.IP	D.Port	S.Port	Frame 1

D.MAC	S.MAC	D.IP	S.IP	D.Port	S.Port	Frame 2

Question 2 [5]

Identify the name of the TCP/IP model layers based on the following functionalities.

- i. Responsible for securing the data at each hop →
- ii. Responsible for converting data into signals for transmission over a physical medium →
- iii. Responsible for handling frames between adjacent nodes →
- iv. Establishing logical connections between network devices →
- v. The layer responsible for giving service to the user →

Question 3 [4]

List two differences between Port address and IP address.

Question 4 [3+2]

Draw a hybrid topology with these topologies: 1 bus, 2 stars and 1 ring topology. [You can use n no. of devices]

Is there any point-to-point and/or multipoint connection in the hybrid topology? If yes, **explain** briefly.