Brac University
CSE320: Data Communications
Summer 2023
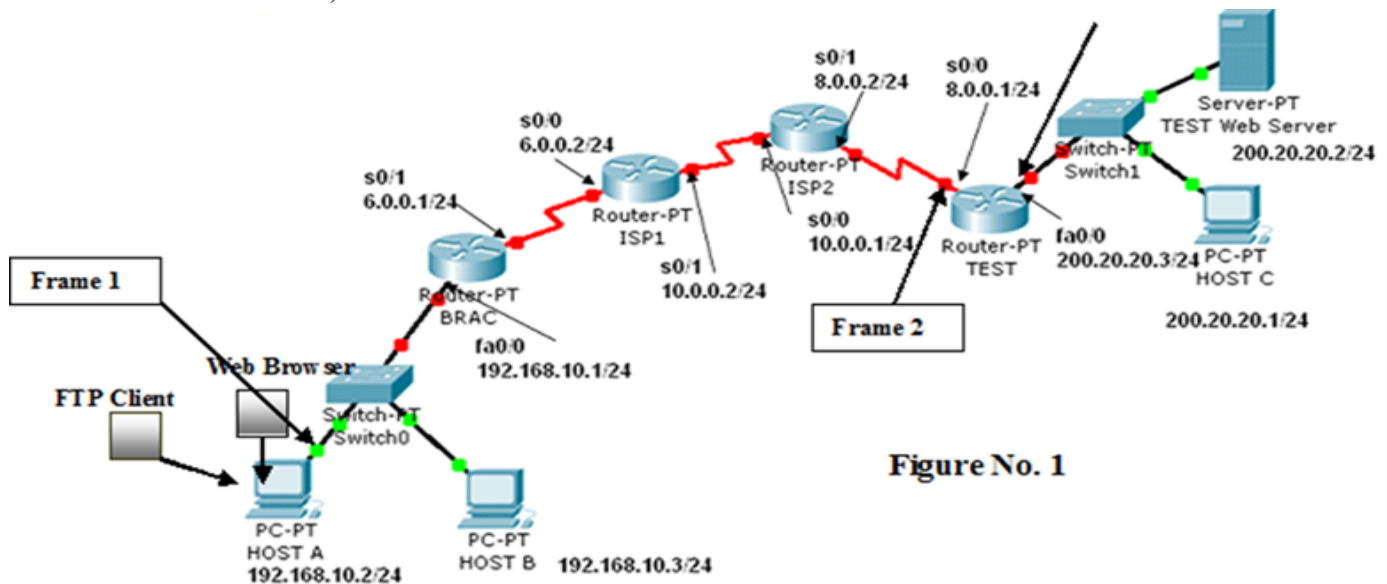**Quiz 01**

Duration: 40 minutes   **Total Marks: 20**

CO1	Name:		ID:	Section:

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 **51030** and the other for accessing the web server with port number **52350**. *The frames shown are all coming from the web server to 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 <u>OSI model</u> layers based on the following functionalities.

i. Responsible for providing a user interface for network services →
ii. Responsible for running multiple processes →
iii. Responsible for establishing and terminating communication sessions →
iv. Responsible for secure transaction of banking data →
v. Enables resource sharing and remote file access among network users →

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]

Draw a hybrid topology with these topologies: 2 buses, 2 stars and 1 ring topology. [You can use **N** no. of devices] Are there any limitations in this hybrid topology? If yes, **explain** briefly.

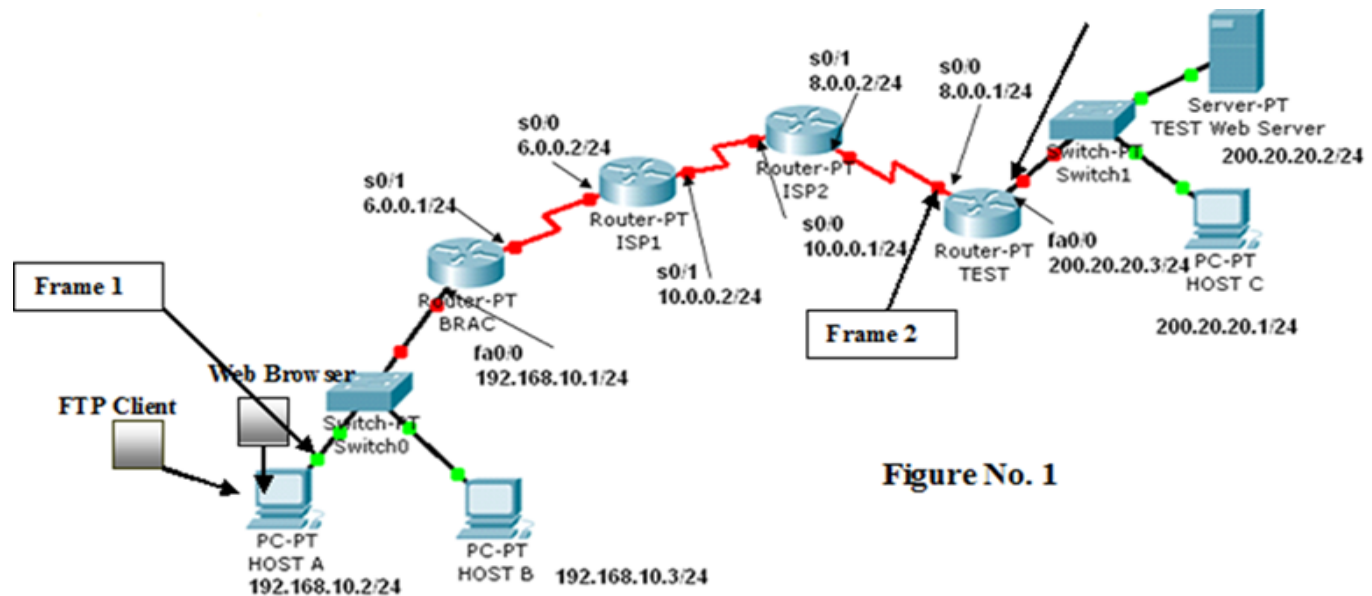**Duration: 40 minutes**   **Total Marks: 20**

CO1	Name:	ID:	Section:

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 **52348** and the other for accessing the web server with port number **51045**. *Frame 2 is coming from the web server to HOST A and Frame 1 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 <u>TCP/IP model</u> layers based on the following functionalities.
i. Responsible for securing the data →
ii. Responsible for converting data into signals for transmission over a physical medium →
iii. Responsible for establishing and terminating communication sessions →
iv. Ensure reliable, error-free communication between end systems →
v. Responsible for providing service to the user →

Question 3 [2+2]
What is the role of port address in data communication? **Explain** briefly.
Diagrammatically **represent** the PDU of the layer in which the port address is added. **Mention** the name of the layer in the OSI model and the name of the PDU.

Question 4 [3+2]
Draw a hybrid topology with these topologies: 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.