

**CSE320**  
**Quiz-1**  
**Total Marks: 15**

**Name:**

**ID:**

**Section:**

**1.** Match the following to one or more layers of the TCP/IP protocol suite: [5]

- A. Segmentation and reassembly of data
- B. Ensuring reliable data transmission
- C. Managing IP addressing and routing packets
- D. Data encapsulation into frames
- E. Responsible for translating data

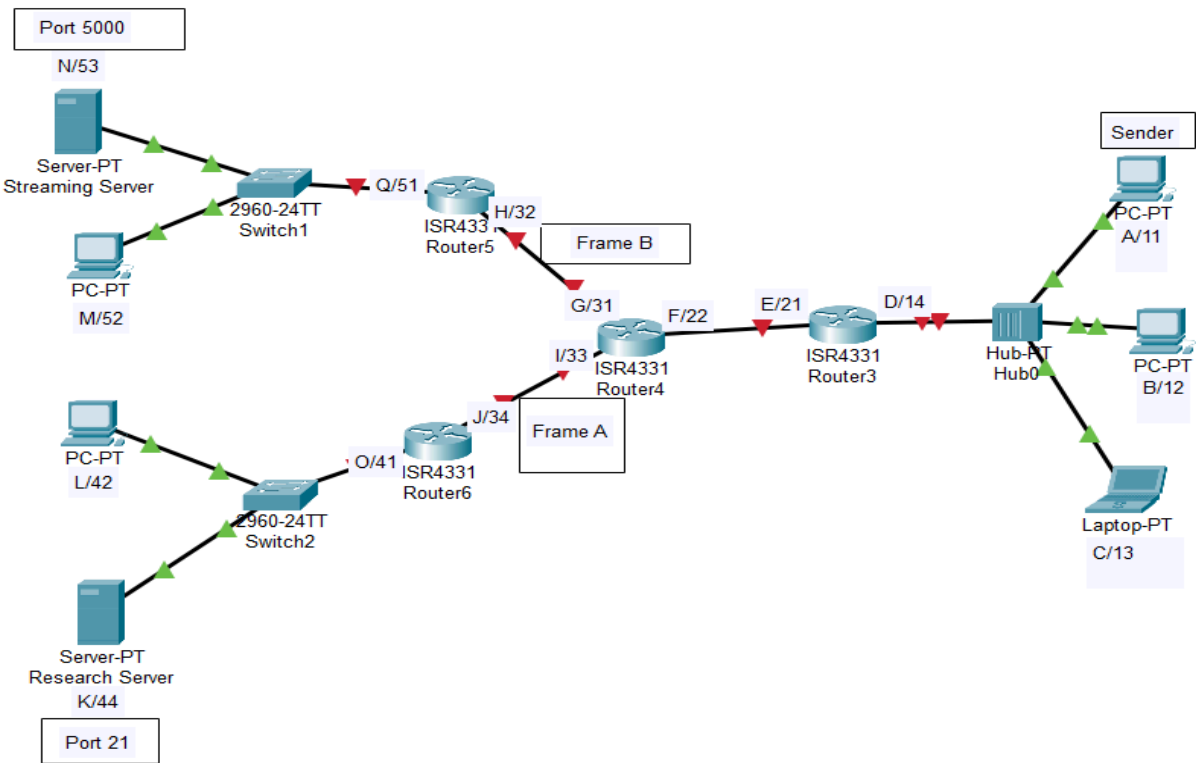
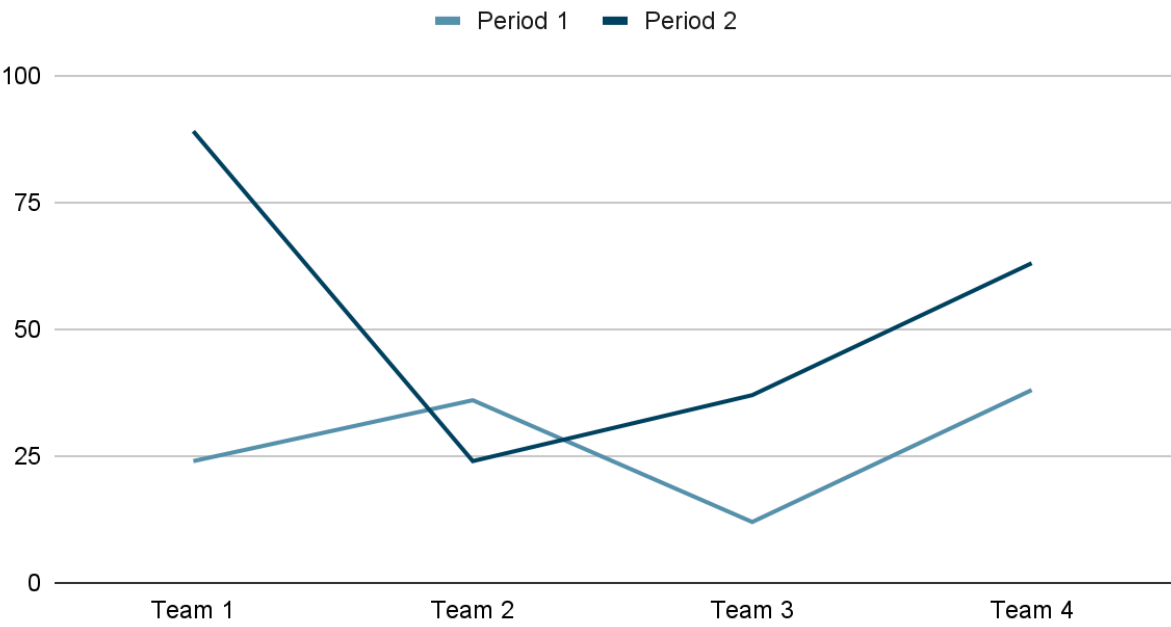
**Ans:**

**2.** Illustrate a hybrid network topology with a ring backbone and three star networks, each consisting of 3 nodes connected to a central hub. In your diagram, identify one possible point of failure in the ring backbone that could bring down the entire network and explain why this failure would disrupt communication. [2+2]

**Ans:**

**3. a)** Complete the frames (A & B) given below with appropriate port, IP, and MAC addresses. Sender is running two applications: one for FTP with port number 2021, and another for video streaming with port number 45000. The frame A is intended for the Research Server, while frame B is coming from the Streaming Server. (MAC addresses are represented by single alphabets, and IP addresses by numbers). [4]

Points scored



Frame A

|        |        |       |       |         |         |      |         |
|--------|--------|-------|-------|---------|---------|------|---------|
| D. Mac | S. MAC | D. IP | S. IP | D. Port | S. Port | Data | Trailer |
|--------|--------|-------|-------|---------|---------|------|---------|

Frame B

|        |        |       |       |         |         |      |         |
|--------|--------|-------|-------|---------|---------|------|---------|
| D. Mac | S. MAC | D. IP | S. IP | D. Port | S. Port | Data | Trailer |
|--------|--------|-------|-------|---------|---------|------|---------|

**Ans:**

**b)** How many Local Area Networks (LAN) are there in total? [1]

**Ans:**

**c)** Which layer of the OSI model is responsible for hop-to-hop delivery? [1]

**Ans:**