1.

**Q1.** Write what you analyze, how bus topology works?

**Answer:**

As two PDUs are simultaneously sent from PC0 to PC2 and PC1 to PC0, messages are observed to be burned as Hubs are Half Duplex and can handle only one device communicating at a time

2.

**Q1.** Write what you analyze, how star topology works?

**Answer:**

As PDU is sent from PC0 to PC3 and PC4 to PC3 at the same the time, the messages get burned and the frame is dropped by the device due to collision

**Q2.** Write down the difference between working mechanism of both topology, and which topology is better and why?

**Answer:**

The main difference between star and bus topology is that, bus topology is formed by a collection of hubs connected with another and each host connected to a hub. Star topology is formed by a collection of hosts connected to a single centralized hub. Star topology is much more reliable than bus as any path being broken down will not affect the other hosts

3.

**Q1.** Write what you analyze, how ring topology works?

**Answer:**

The overall structure of ring topology is similar to that of bus topology the only difference that exists is that the hubs instead of just being laid out linearly also form cycles

**Q2.** Write down the working mechanism of ring topology, and which topology is better and why?

**Answer:**

Ring topology performs better compared to bus topology as rather than hubs being spread out linearly, each hub is connected to exactly two hubs however ring topology is observed to be slower than star where direct connection exists with hub and DPU doesn’t traverse unnecessary points (computers)

4.

**Q1**. Write what you analyze, how mesh topology works?

**Answer:**

Mesh topology is observed to be an extension of ring topology with the exception that all hosts are connected with one another. When we send PDU from PC1 to PC3 and PC2 to PC1 due to collision packet is dropped

**Q2.** Write down the working mechanism of mesh topology, and which topology is better and why?

**Answer:**

It is a suitable option to choose for high traffic as multiple devices can transmit data simultaneously however the cost of implementing it is much higher than the other ones

**Hubs vs Switches:**

Hubs are half-duplex meaning they can only handle a single operation (send/ receive) at the same time whereas switch can handle both simultaneously