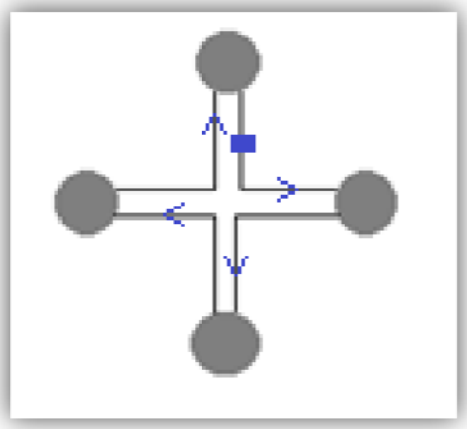
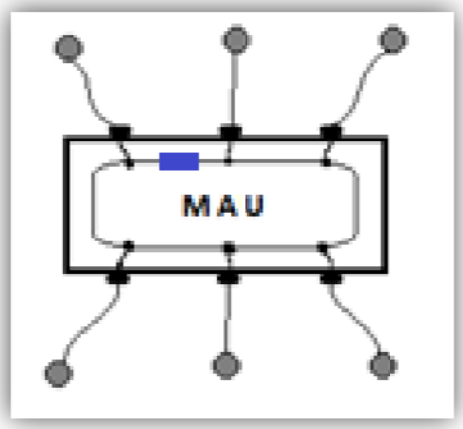
Course Name: O Level (2nd Sem) **Subject: ICT**

Topic: Token Ring **Date: 27-05-20**

Token Ring: Token ring is another popular LAN standard. It is developed by IBM and standardized by IEEE. The topology is a big artefact here. In Token Ring, we use Ring topology and Token passing method of multiple accesses.

Token ring is implemented in the following two ways:





In these diagrams, the blue block is the token which works like an empty frame and travels through every PC in cycle. The detail of token passing is discussed below.

In the first method, 2-port NICs are equipped in every PC. One port receives the token and the second departs. Thus the token circulates in a closed ring reaching every PC once in the cycle.

In the second method we use a device named MAU (Multi-station Access Unit). An MAU contains a ring that circulates the token. All machines are connected to the MAU like a switch.

Token Passing: Token ring network uses token passing system for allowing all the machines to communicate altogether. An empty frame called 'Token' circulates throughout the ring continuously.

The machine that wants to send something regularly checks the token. If it is empty, the sender machine acquires it and sends its data to the receiver.

Receiver, on finding the data, puts an ACK (Acknowledgement) on to the token. Sender, on finding the ACK assures that the delivery was successful. All machines follow the same methodology.

Limitations:

1. Due to token passing system, this network works much slower as compared to the other ones like Ethernet and FDDI.
2. A single breakdown in the cable may destroy the entire network because token passing will be stopped thereof.

Assignments:

1. What do you understand by Token Passing? What are its limitations?
2. Briefly discuss about Token Ring.