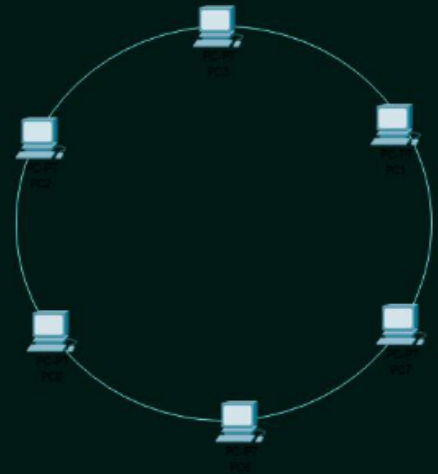# OUTCOMES

Upon the completion of this session, the learner will be able to

★ Determine the number of links(cables) and ports required for a given topology.
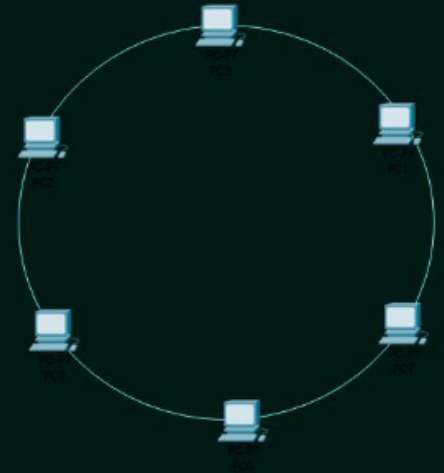
QUESTION 1

Identify the given topology and determine how many cables and ports are required to have such network?

Ring Topology

No. of Nodes (N)	No of Cables (=N)	No. of Ports/device (NOPD)	Total No. of ports in the network (TNOP) = N X NOPD
2	2	2	4
3	3	2	6
4	4	2	8
N	N	2	2 x N

QUESTION 1

Identify the given topology and determine how many cables and ports are required to have such network?
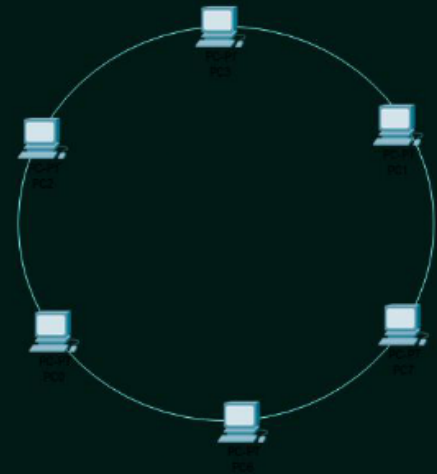
Solution: (Here N=6)
Topology: Ring Topology

No. of cables = N
No of cables = 6

TNOP = N x NOPD
Here N=6, NOPD=2
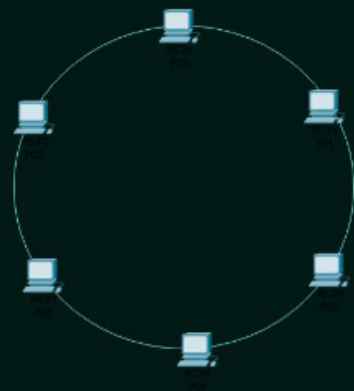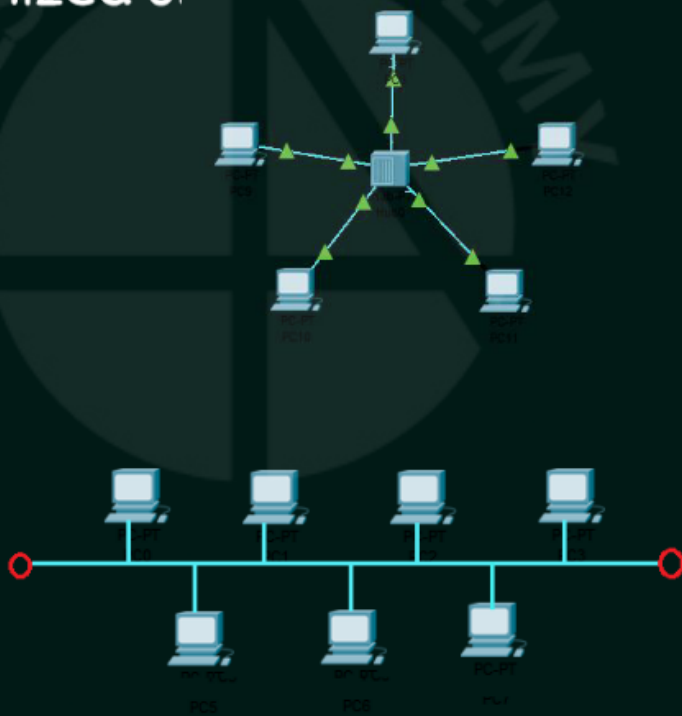TNOP = 6 x 2 = 12

QUESTION 2

Traffic problem can be minimized using?

a. Star ❌

b. Bus ❌

c. Ring ❌

d. **Mesh**

QUESTION 3

How many ports and cables links are needed for a star topology?

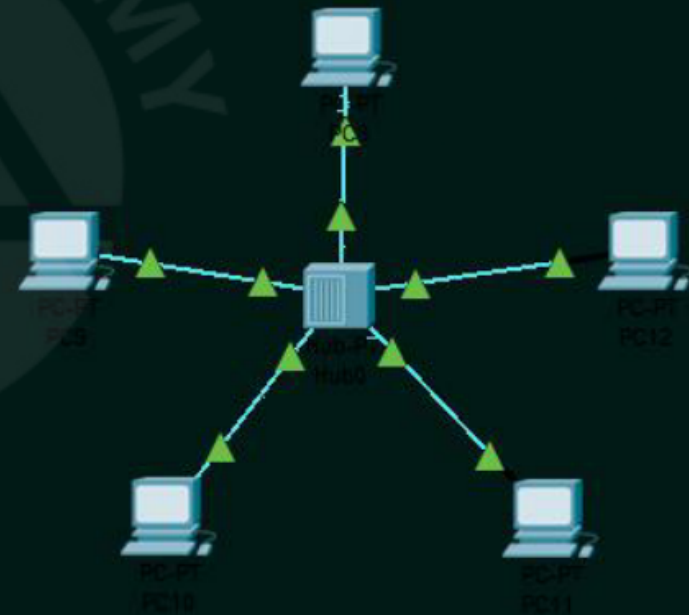Solution:

No. of cables   : N
No. of cables   : 5

No. of ports   = 2 × N
No. of ports   = 2 × 5
No. of ports   = 10

Star Topology

No. of Nodes (N)	No of Cables (=N)	No of Ports/device (NOPD)	Total No. of ports in the network (TNOP) = 2 X N
2	2	1	4
3	3	1	6
4	4	1	8
N	N	1	2 x N

Home work

Assume six devices are arranged in a mesh topology.
- (i)How many cables are needed?
- (ii) How many ports are needed for each device?
- (iii) How many ports are there in the entire network?