



## Instructions

Please read the following instructions carefully before solving & submitting assignment:

**It should be clear that your assignment will not get any credit (zero marks) if:**

- The assignment is submitted after due date.
- The submitted assignment does not open or file corrupt.
- The assignment is copied (from other student or ditto copy from handouts or internet).
- Student ID is not mentioned in the assignment File or name of file is other than student ID.

For any query about the assignment, contact at [cs601@vu.edu.pk](mailto:cs601@vu.edu.pk)

### Question 1:

[5]

For six devices in a network, what is the number of cable links required for a mesh, ring, and star and bus topology?

### Solution:

**n** shows number of devices

a. Mesh:  $n(n - 1) / 2$

$$6(6-1) / 2 = 15 \text{ cables}$$

b. Star:  $n = 6$

$$6 \text{ cables}$$

c. Ring:  $n = 6$

$$6 \text{ cables}$$

d. Bus: one backbone and 6 drop lines

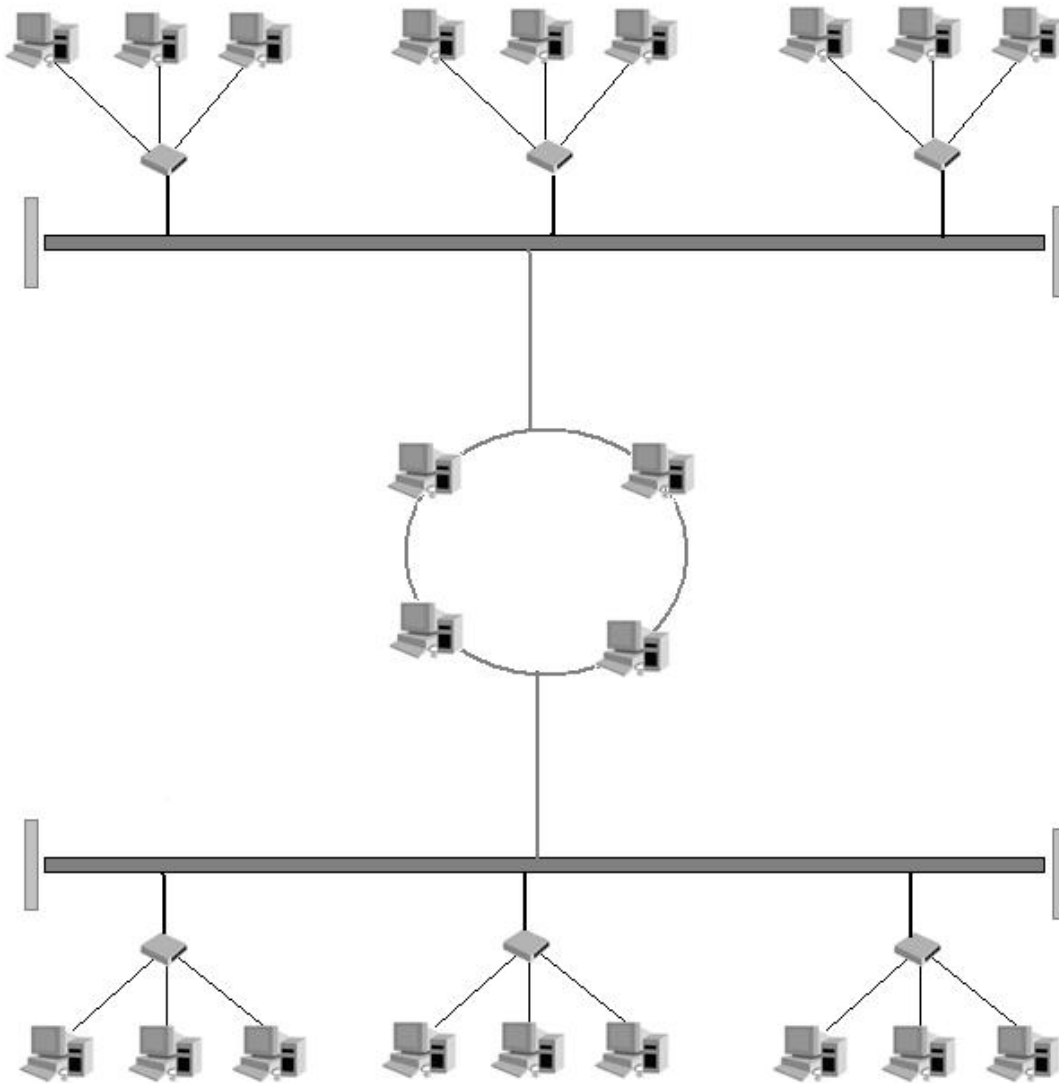
$$6 + \text{one backbone} = 7 \text{ cables}$$

**Question 2:**

**[5]**

Draw a hybrid topology with a ring backbone connecting two bus backbones each bus backbone connecting three star networks.

**Solution:**



**Question 3:**

**[5]**

Suppose we want to build a small network in school building, which topology you will prefer and why? Explain your answer with solid reasons.

**Solution:**

**Topology:**

We prefer Star topology.

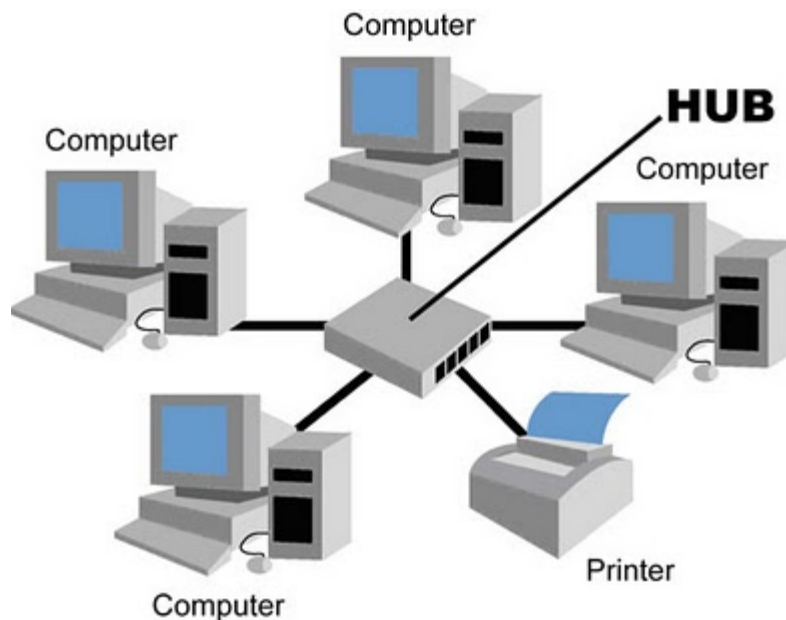
### **Why Selected:**

Because, as according to the given requirement, we have a small network in which we need a shared environment where students share data as well as able to share the resources access e.g. Printer, FTP etc.

### **Reasoning:**

In Star Topology there is a central connection point which controls all the traffic flow called the hub, which is a computer hub or sometimes just a switch. In a Star Network the best advantage is that, when there is a failure in cable then only one computer might get affected and not the entire network.

- A Star Network Topology is very easy to manage because of its simplicity in functionality.
- The problems occur in the building network can be easily located and can be resolved easily.
- The Star Topology is very simple in format and is very easy to expand, if number of computers added to our network.
- It provides secure and reliable connection with affordability in terms of cost.



**Lectures Covered: This assignment covers Lecture # 01-08**

### **Deadline**

**Your assignment must be uploaded/submitted till Monday 18 April, 2011.**