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### Lab Practical #11:

Visit your Institute server room and various places where racks and servers installed, identify various network components, collect information about installation of necessary hardware and software.

### Practical Assignment #11:

#### 1. To identify various network components, collect information about installation of necessary hardware and software like firewall, routers, switches, etc.

##### ➤ Server room:

- The structure of server room is low-cost and unstructured.
- All the design and implementation are done by the network administrator.
- In this network there are two topologies are use I. Star Topology, II. Ring Topology.
- There are some components are use in this internet connection network Like Switch, router, ethernet cable, media convertor, fiber-optic cable, Fire Wall, etc.
- One individual ethernet cable comes from all labs of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> floor.
- All the ethernet cable is connected to the switches in the server room.
- the “cisco” switches (**24 ports**) are use in the network connection.
- For provide connection to all buildings of campus through fiber-optic.
- In server room, we use media convertor for connect ethernet cable to fiber-optic cable.
- This ethernet cable is connected to switch.
- All the switches and firewall are interconnected in ring topology structure.
- In the server room we use **SOPHOS XGS 2100** Firewall.
- 2 uplink port are use in firewall for network antenna to get wireless internet connection through internet service provider.

##### ➤ Building(a) – switching room :

- The switching room is placed in building – A (Other buildings).
- In the switching room some components are use like switch (24-port), media convertor, fiber-optics, ethernet cable.
- All the lab’s computers connected to the switch and one common wire connected to fiber-optic through media converter.
- Fiber-optic provide connection between two buildings.
- Here one more fiber-optic is used because one internet service provider’s

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wireless antenna is located on terrace of building - A.

- At this time media convertor is again in picture because it is used to convert from ethernet cable to fiber-optic cable which is pass through underground cabling pattern to the building C.
- Also use wired connection on the terrace between two building.

➤ **Terrace – Antenna :**

- There are 3 wireless antenna are used
- 2 are of same company.
- 1 is of another company.
- 2 antenna are use for regular usage .
- And other one use as a backup of internet.
- If in any situation, some problem faced in antenna of one company then other company's internet service will be used.