

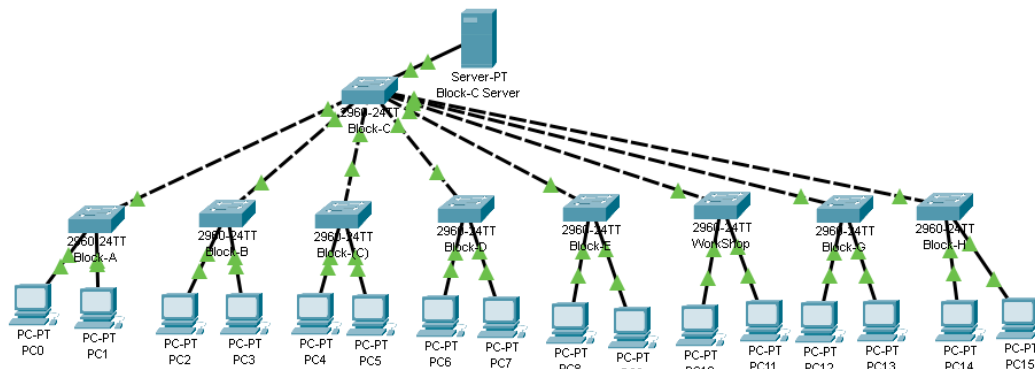
Date: 12/09/2024

### Lab Practical #13:

Study & Survey of Institute organization network infrastructure.

### Practical Assignment #13:

**1. Identify type of network in your institute. Draw a design of network in your institute (Any Lab/Floor/Building).**



#### ➤ Explanation :

- Above Diagram is the network of Darshan University
- C - Block is the designated primarily to Computer Department and the Server Room is located here
- Through Air-fiber on the terrace of C - Block we are receiving internet connection from the ISP from Madhapar Chawk, Rajkot
- Each Block of Darshan University is connected to server room which is located at Block-C
- Through a L-3/L-2 Switch placed in each lab connected directly to server room provides ethernet Connection to each Computer in lab.
- In some labs we have WiFi-6E routers available for extra connectivity
- For more security Sophos is implemented.
- Sophos provides firewall protection, Intrusion detection and prevention to protect from cyber threats.
- When we want to use Internet then we need to connect to Sophos using userid and password.
- Here we have our Fiber Optic Switch which is used to connect to the ISP and to provide Fast Internet to all other blocks



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**2. List how many network devices and types of cable used and give its details.**

- Network type : LAN
- Network Devices :
  - **Sophos:** for firewall and gateway
  - **L-3 Switch:** used to connect each block and ISP from C-Block to provide internet to each block.
  - **Router:** used for wireless connectivity to each block.
  - **L-2 Switch:** used to connect each Computer in labs of each block to use internet service.
  - **Wireless APs:** wireless Access Points are used to provide connectivity in H Block
  - **Uninterruptible Power Supplies(UPS):** provide backup power to critical devices in case of outages.
  - **Antennas:** used to connect to the ISP which is located 18 km far from Darshan University
  - **Servers:** to store data centrally
  - **Cables:** twisted pair cable and fiber optic cable
  - **Connectors:** RJ45
- Darshan University pay 12 lakh INR , which covers the usage and maintenance of ISP connection.