

# COMPUTER

# NETWORK

## ASSIGNMENT

NAME: V. LOKESH KUMAR  
Reg no: 142521170



SCENARIO : A School wants to isolate student traffic between the Computer Lab, Robotic Lab, and Library

1. How do VLANs help in managing and securing such segmented traffic

- VLANs (Virtual LANs) separate network traffic logically, even if devices are on the same physical switch
- Each lab (Computer Lab, Robotics Lab, Library) can be assigned a unique VLAN, preventing direct communication between them.
- This improves security (isolated data flow) and management (controlled access per department or use case).

2. What additional configuration is needed to enable inter-VLAN communication

\*) A Layer 3 device (such as a router or Layer 3 switch) is required.

\*) You need to configure Router-on-a-Stick on SVI (Switched Virtual Interface) for each VLAN.



- This setup allows controlled inter-VLAN routing, so devices can communicate only if permitted by access control rules or Firewall policies.

## VLAN SEGMENTATION

