**Lab Practical #05:**

Study the concept of VLAN using packet tracer.

**Practical Assignment #05:**

1. **Implement the different network structures in VLAN and VLAN trunking. Also check connectivity between them using ping command or PDU utility.**

Steps to Configure VLANs in Cisco Packet Tracer

1. Set Up the Network Topology
   * Open Cisco Packet Tracer.
   * Place a 2960 switch on the workspace.
   * Add multiple PCs and connect them to the switch using Copper Straight-Through cables.
2. Access the Switch Configuration
   * Click on the switch device.
   * Navigate to the Config tab.
3. Add VLANs
   * In the left menu, choose VLAN Database.
   * In the VLAN configuration table:
     + Enter a VLAN ID (e.g., 10) and a VLAN Name (e.g., Sales), then press Add.
     + Enter another VLAN ID (e.g., 20) with a Name (e.g., HR), then press Add.
4. Configure Switch Ports for VLANs
   * Select an interface such as FastEthernet0/1 from the left panel.
   * Change the Port Mode to Access.
   * From the VLAN dropdown, assign the correct VLAN ID (e.g., 10).
   * Repeat for other interfaces, assigning each to the correct VLAN.
5. Assign IP Addresses to End Devices
   * For each PC: go to Desktop → IP Configuration.
   * Assign IP addresses within the same subnet for devices in the same VLAN.
6. Test VLAN Connectivity
   * Use the ping command: PCs in the same VLAN should communicate successfully.
   * PCs in different VLANs will be unable to communicate unless a router-on-a-stick setup or a Layer 3 switch is used.







