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**Subject: Computer Networks Lab**

**Lab Task 02**

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**Submitted To: Sir Rasikh**

**Section: 5D**

**Task 1: Why are we using 2911 router and not the others?**

**Sol:**

The Cisco 2911 router is ideal for medium-sized businesses or branch offices due to its balance of performance, modularity, and integrated services. It supports multiple WAN technologies, making it versatile for hybrid networks. Unlike smaller models like the 1941 or 2901, the 2911 offers more expansion slots and higher throughput, allowing for advanced features like voice, VPN, and security services. It's often chosen for its flexibility in scaling with network growth, as well as its support for collaboration tools (e.g., IP telephony). Compared to more expensive models like the ISR 4000 series, the 2911 provides a cost-effective solution for environments that need robust capabilities without requiring the higher performance of the newer models.

**Task 2: Why are we using 2950T or 2960 switch and not the others?**

**Sol:**

The Cisco 2950T and Cisco 2960 switches are typically chosen over other models in certain network scenarios due to their specific features and suitability:

1. Cisco 2950T is a Layer 2 switch with Gigabit Ethernet uplinks, making it ideal for small networks that require high-speed uplinks to a backbone network. It’s cost-effective and widely used in older or simpler network setups where only basic Layer 2 switching is needed without advanced Layer 3 routing.
2. Cisco 2960 is a more modern switch offering Layer 2 and basic Layer 3 capabilities (static routing) and is perfect for small-to-medium-sized businesses. It supports VLANs, port security, and Quality of Service (QoS) for better traffic management. Its ease of use, reliability, and cost-effectiveness make it ideal for access layer deployment in office environments.

These switches are preferred when advanced Layer 3 routing or higher performance features (like PoE or industrial-grade durability) aren't necessary, offering a balance of simplicity and performance for smaller networks.

**Task 3: Design the network of "Lab-7" or “Lab-8” (2-3 rows of computers) Use: Switch, Router, & End-Devices like Laptop/PC**

**Sol:**

