1. **What are these TIA/EIA Standards? How do 568 A differs from 568 B? Are there any other standards? (100 – 300 Words)**

The TIA/EIA standards are related to commercial network cabling. They specify the requirements for commercial LAN applications. There are 2 standards in particular, 568A and 568B. The main difference between 568A and 568B is the position of the green and orange wires. They are reversed. In 568A, green-white and green are wires 1 & 2, orange-white and orange being 3 & 6 respectively. In 568B, orange-white and orange occupy 1 & 2 with green-white and green at position 3 & 6. There are other standards such as EIA/TIA 570, 606 and 607 but these are for different application.

2. **What is a Straight through Cable and Cross over Cable? Which cable should be selected during a simple network installation (Topology includes Routers, Switches and End Devices)? (100 – 300 Words). You shall use Tables, Diagrams to clarify.**

A straight through cable is a networking cable where each of the 8 pins connect to the same pin on the opposite end of the cable. A straight through cable would be used when linking two un-like devices together such as connecting a computer to a switch. A cross over cable on the other hand have pairs of wires that cross over allowing communication in both directions at the same time. These are used to network devices that are the same or 'like'.

In a simple topology, both cross over and straight through cables would be used. As shown in figure 1 below, there are more straight though cables used as the switch connects to un-like devices; PC1, Printer0, Router1 and Laptop0. Where Router1 connects to PC0 however, a cross over cable is used as the PC and router are considered like devices.

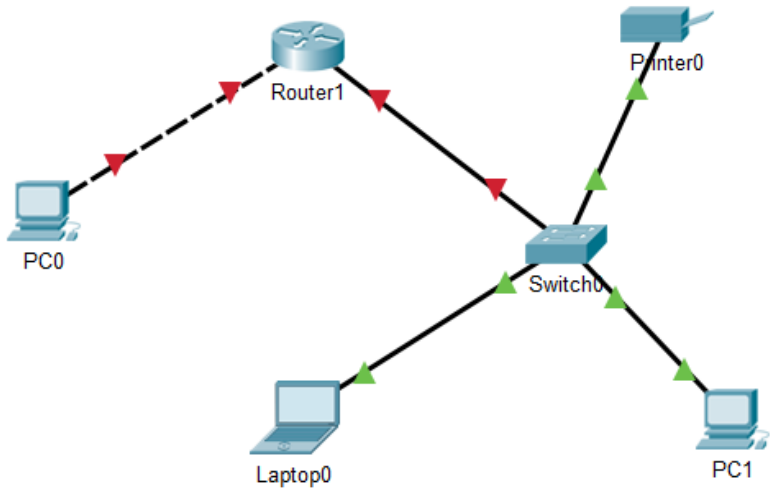

Figure 1 – Simple Network Topology