**Task # 01: Define following network terminologies:**

**1. EIA/TIA 568A and 568B standards:**

The 568A and 568B standards were **developed to provide more effective communications for longer distances in a Cat5e cable segment than using nonstandard schemes.**

Telecommunications Industry Association (TIA)/Electronic Industries Alliance (EIA) developed the TIA/EIA 568A & TIA/EIA 568B standards for Unshielded Twisted Pair wiring.

These standards **determine the order of the wires placed in a RJ45 connector**. With the only difference between the two standards is the placement of cable pairs on set pins, functionally both standards are the same.

**2. Color combination of straight and cross Ethernet cable**

The following table lists the wire positions of the straight-through cable on both sides.

|  |  |
| --- | --- |
| Side A | Side B |
| Green White | Green White |
| Green | Green |
| Orange White | Orange White |
| Blue | Blue |
| Blue White | Blue White |
| Orange | Orange |
| Brown White | Brown White |
| Brown | Brown |

The following table lists the wire positions of the cross-over cable on both sides.

|  |  |
| --- | --- |
| Side A | Side B |
| Green White | Orange White |
| Green | Orange |
| Orange White | Green White |
| Blue | Blue |
| Blue White | Blue White |
| Orange | Green |
| Brown White | Brown White |
| Brown | Brown |

**3. Unshielded Twisted Pair (UTP) & Shielded Twisted Pair (STP)**

**Shielded twisted pair cable (STP**) has the individual pairs of wires wrapped in foil, which are then wrapped again for double protection.

**Unshielded twisted pair cable (UTP)** has each pair of wires twisted together. Those wires are then wrapped in tubing without any other protection.

**4. Straight Through and Cross-over Ethernet Cable**

In the **Ethernet** **straight-through** **cable** wires are placed in the same position at both ends. The wire at pin 1 on one end of the cable connects to pin 1 at the other end of the cable. The wire at pin 2 connects to pin 2 on the other end of the cable; and so on.

In the **cross-over Ethernet cable.,** transmitting pins of one side connect with the receiving pins of the other side. The wire at pin 1 on one end of the cable connects to pin 3 at the other end of the cable. The wire at pin 2 connects to pin 6 on the other end of the cable. Remaining wires connect in the same positions at both ends.

**5. RJ-45 connector**

An 8-pin/8-position plug, or jack is commonly used to connect computers onto Ethernet-based local area networks (LAN). Two wiring schemes–T568A and T568B–are used to terminate the twisted-pair cable onto the connector interface.