SkillsUSA Competition

**Internetworking**

**January 17, 2022**

# District 8 COMPETITION

**Objective: To determine a student’s ability to demonstrate basic and advanced computer network skills.**

**Equipment to be supplied by student:**

## Pencil

Category 5 UTP Cable Terminating **Tools** for Cable Making and Punch Downs on Straight-thru panel and an RJ45 Wall outlet.

Tool Kit for Installing Adapter cards

ESD Equipment

**Equipment supplied by test site:**

## All other equipment

**The competition will consist of two parts:**

1. An online exam geared towards the CompTIA Network+ Exam
2. A four-part practical test:

**The practical examination will consist of the following items:**

1. Build a 568b UTP straight-thru cable and cross -over cable. The student will be supplied with all the equipment and consumables necessary to build a three foot Straight-thru cable and cross-over cable according to TIA/EIA 568B standards. Punch down a UTP cable between a Patch Panel and a Network Jack to TIA/EIA 568B standards. Time allotted-TBD
2. Connect two computers in a peer-to-peer network, using one wireless NIC and a wireless access point. Configure the computers with appropriate Class B or C IPv4 addresses. Test IP connectivity. Configure the wireless routers given a specific list of specifications. Time allotted-TBD
3. Troubleshoot faults placed in the above peer-to-peer network.
4. Subnet a Class B or Class C network and distribute those addresses throughout a given topology. Time allotted-TBD

Time allotted-TBD

**Scoring will be as follows:**

Written Test 40 points

Cable Building/Terminating 40 points

Wireless Networking 40 points

Troubleshooting 40 points

Subnetting 40 points

## TOTAL 200 points

**Judge Sheet**

|  |  |  |
| --- | --- | --- |
| Item | Possible Score | Points Received |
| **Written Test** | 40 |  |
|  |
| **Cable Building/Terminating** |  |  |
| Straight-thru Cable passes test | 10 |  |
| Cross-over Cable passes test | 10 |  |
| Patch Panel Test | 10 |  |
| Network Jack Passes | 10 |  |
|  |
| **Wireless Networking** |  |  |
| Used proper safety procedures when installing hardware | 10 |  |
| Peer-to-peer network was connected | 10 |  |
| IP Address configuration and testing  | 10 |  |
| Wireless Router Configuration | 10 |  |
|  |
| **Subnetting** |  |  |
| Correct number of subnets and hosts determined | 10 |  |
| Correct subnet mask used | 10 |  |
| Subnet ranges setup correctly | 10 |  |
| Subnet distribution setup correctly | 10 |  |
|  |
| **Troubleshooting** |  |  |
| All inserted faults found and documented | 40 |  |
| **Total** | 200 |  |