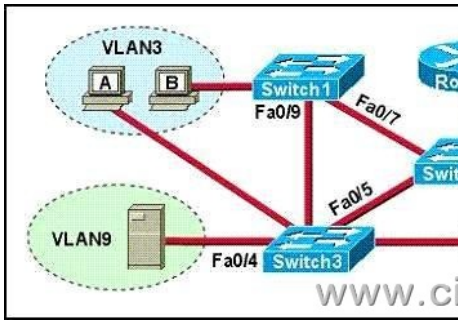
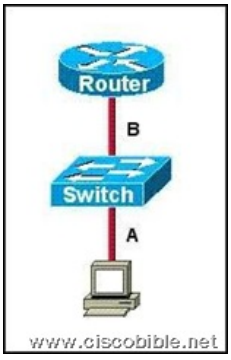
CCNA 640-802 Bible - Identify Network Problems

1. While troubleshooting a network connectivity problem, a technician observes steady link lights on both the workstation NIC and the switch port to which the workstation is connected. However, when the ping command is issued from the workstation, the output message "Request timed out." is displayed. At which layer of the OSI model does the problem most likely exist? A: the session layer B: the protocol layer C: the data link layer D: the access layer E: the network layer F: the application layer **Correct Answers: E** Explanation: Network Layer: The Network layer (also called layer 3) manages device addressing, tracks the location of devices on the network, and determines the best way to move data, which means that the Network layer must transport traffic between devices that aren't locally attached. Routers (layer 3 devices) are specified at the Network layer and provide the routing services within an internetwork. Request Time out, Destination Unreachable etc error comes from Network Layer problem. 2. Refer to the exhibit. A problem with network connectivity has been observed. It is suspected that the cable connected to switch port Fa0/9 on Switch1 is disconnected. What would be an effect of this cable being disconnected?



A: Host B would not be able to access the server in VLAN9 until the cable is reconnected. B: Communication between VLAN3 and the other VLANs would be disabled. C: The transfer of files from Host B to the server in VLAN9 would be significantly slower. D: For less than a minute, Host B would not be able to access the server in VLAN9. Then normal network function would resume. **Correct Answers: D** Explanation: Spanning-Tree Protocol (STP) is a Layer 2 protocol that utilizes a special-purpose algorithm to discover physical loops in a network and effect a logical loop-free topology. STP creates a loop-free tree structure consisting of leaves and branches that span the entire Layer 2 network. The actual mechanics of how bridges communicate and how the STP algorithm works will be discussed at length in the following topics. Note that the terms bridge and switch are used interchangeably when discussing STP. In addition, unless otherwise indicated, connections between switches are assumed to be trunks. STP keeps the port either in block or in forward states, when forward port disconnect then within the less then a minute blocked port comes into forward state so packets starts to go through new forward port. The Spanning Tree Protocol (STP) would identify the best path as well as alternate path to reach in proper destination. In a redundant link, if the primary link fails then the secondary links will automatically start after few minutes. If port Fa0/9 became disconnected, then the packets would be re-routed automatically using the A-Switch2-Switch3 path. 3. A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen? A: session B: transport C: network D: data link E: physical **Correct Answers: D Explanation:** As the question states that serial line is up, it means the problem is not on the Network layer. The administrator cannot see any output by issuing the show cdp neighbors command. It means that CDP is disabled and CDP is a protocol that runs over Layer2 (the data link layer) on all Cisco routers, bridges, access servers, and switches. 4. Refer to the exhibit. The two connected ports on the switch are not turning orange or green. What would be the most effective steps to troubleshoot this physical layer problem? (Choose three.)



A:Ensure that the Ethernet encapsulations match on the interconnected router and switch ports. B:Ensure that cables A and B are

straight-through cables. C:Ensure cable A is plugged into a trunk port. D:Ensure the switch has power. E:Reboot all of the devices. F:Reseat all cables. **Correct Answers: B, D, F** Explanation: Straight-through cables are used to connect hosts to a switch (or hub) and routers to a switch (or hub). See the table below:

	Hub	Switch	Router	Workstation
Hub	Crossover	Crossover	Straight	Straight
Switch	Crossover	Crossover	Straight	Straight
Router	Straight	Straight	Crossover	Crossover
Workstation	Straight	Straight	Crossover	Crossover