

COM-208: Computer Networks - Sample Quiz Solution

Name:

1. The NAT protocol:
 - (a) is a stateless protocol.
 - (b) allows multiple hosts to use the same public IP address. *(Correct)*
 - (c) is used to reassemble IP packet fragments.
2. The poisoned reverse is:
 - (a) an attack that poisons the forwarding table.
 - (b) a mechanism used by NAT to translate incoming traffic (from the public network to the private network).
 - (c) an optimization to reduce convergence time in distance-vector algorithms. *(Correct)*
3. The following is true:
 - (a) Routing is a local process (in a router), while forwarding is a network-wide process.
 - (b) Forwarding is a local process (in a router), while routing is a network-wide process. *(Correct)*
 - (c) There is no difference between routing and forwarding.
4. A NAT gateway modifies the following fields in outgoing packets (from a private network to the Internet):
 - (a) source IP address. *(Correct)*
 - (b) destination TCP port.
 - (c) both of the above.
5. In a link-state routing algorithm:
 - (a) each router communicates only with its neighbors.
 - (b) each router keeps state for each packet in a private cache.
 - (c) each router forms the full picture of the network. *(Correct)*
6. A forwarding table may be populated:
 - (a) by a routing process.
 - (b) during connection setup between two hosts.
 - (c) both of the above. *(Correct)*
7. The network layer of the Internet offers the following services:
 - (a) guaranteed maximum loss rate.
 - (b) guaranteed minimum throughput.
 - (c) neither of the above. *(Correct)*
8. Distance-vector routing algorithms:
 - (a) are distributed algorithms. *(Correct)*
 - (b) take as input the routers' graph and the cost of the links.
 - (c) converge faster than link-state algorithms.
9. The DHCP protocol is used:
 - (a) to allocate IP addresses to hosts. *(Correct)*
 - (b) as a mechanism to prevent routing loops.
 - (c) to establish connections between different AS-es.
10. The following is true about BGP:
 - (a) It is a centralized algorithm.
 - (b) It determines paths that span multiple AS-es. *(Correct)*
 - (c) It always selects a route that crosses the fewest number of routers.