Course Name: ETHICAL HACKING

Assignment- Week 3

TYPE OF QUESTION: MCQ/MSQ/SA

Number of questions: 10   **Total mark: 10 x 1 = 10**

QUESTION 1:

Which of the following statement(s) is/are **false**? **[MSQ]**

   a. IP protocol uses connection-oriented routing.
   b. IP protocol uses connection-less routing.
   c. In connection-less routing, each packet is treated as an independent packet.
   d. None of these.

Correct Answer: a

Detail Solution: In connection-oriented approach, network layer first makes a connection and then all packets are delivered as per the connection. In connection-less protocol, network layer treats each packets independently. IP protocol uses connection-less approach for packet delivery.

Thus option (a) is correct.

QUESTION 2:

A routing table entry that is manually configured remains unchanged unless manually modified is called a _____ routing table entry. **[MCQ]**

   a. Automatic
   b. Static
   c. Dynamic
   d. None of these

Correct Answer: b

Detail Solution: Static routing table entries are configured manually and does not change with time.

Thus the correct option is (b)

QUESTION 3:

Which of the following statements is/are **false** about *direct and indirect packet delivery*? **[MSQ]**

      a. Direct delivery happens within the same network.
      b. Indirect delivery is used for different networks.
      c. In indirect delivery packet travel through multiple routers.
      d. None of these.

Correct Answer: d

Detail Solution: Direct delivery occurs when the source and destination of the packet are located on the same physical network or when the delivery is between the last router and the destination host. If the destination host is not on the same network as the deliverer, the packet is delivered indirectly. In an indirect delivery, the packet goes from router to router until it reaches the one connected to the same physical network as its final destination.

Thus the correct options is (d).

QUESTION 4:

Which of the following statements correctly describe features of dynamic routing? **[MSQ]**

      a. All routers are manually configured by the network administrator.
      b. Routing table updates periodically depending on the network condition.
      c. Routers exchange control information, which consumes network resources.
      d. It can automatically find alternate paths during link failures.
      e. It never changes the routing table once initialized.

Correct Answer: b, c, d

Detail Solution: In static routing routes are defined manually and the routing table does not change until the network administrator changes manually or modify them manually. In dynamic routing routes are updated automatically based on the network condition. In dynamic routing some bandwidth are consumed for communication. In case of link failure; in static routing the administrator needs to update the routing table, whereas in dynamic routing the tables can be updated automatically, thus re-routing is easy.
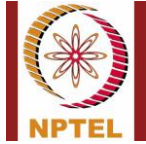
Thus the true options are (b), (c) and (d).

QUESTION 5:

In the routing table, which of the following flags indicates that the route uses a gateway to reach the destination? **[MCQ]**

        a. U
        b. G
        c. H
        d. D
        e. M

Correct Answer: b

Detail Solution: The G flag in a routing table stands for Gateway. It indicates that the route uses an intermediate gateway (router) instead of being directly connected. U means the route is up. H specifies a host-specific route. D and M indicates the route was dynamically created (modified) routing.

Hence, the correct option is (b).

QUESTION 6:

Which of the following statement about the default route is **incorrect**? **[MCQ]**

        a. It is specified by an address 0.0.0.0.
        b. It is specified by an address 127.0.0.1.
        c. It is used for forwarding packets to unknown destinations.
        d. None of these.

Correct Answer: b

Detail Solution: Default route, also known as the gateway of last resort, is used in forwarding packets whose destination address does not match any entry in the routing table. In IPv4 the CIDR notation for a default route is 0.0.0.0/0.

The incorrect option is (b).

QUESTION 7:

Which of the following routing protocols suffers from the count-to-infinity problem? **[MCQ]**

      a. OSFP
      b. BGP
      c. RIP
      d. None of these.

Correct Answer: c

Detail Solution: RIP uses distance vector routing which is prone to routing loops and can cause count-to-infinity problem.

The correct option is (c).

QUESTION 8:

Which of the following routing protocols is used for routing between different autonomous systems? **[MCQ]**

      a. RIP
      b. OSFP
      c. BGP
      d. ICMP

Correct Answer: c

Detail Solution: BGP is used for routing between different autonomous systems. RIP and OSFP are interior protocols, ICMP is not a routing protocol.
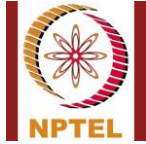
The correct option is (c).

QUESTION 9:

In Open Shortest Path First (OSPF) routing protocol, which of the following packets is used to check if the neighbor router is up(active)? **[MCQ]**

      a. Link State Request
      b. Hello Packet
      c. Link State Acknowledgement

d. TCP 3-way handshake
e. None of these

Correct Answer: b

Detail Solution: In Open Shortest Path First (OSPF) routing approach, the "Hello" packet is used to check if a neighbor is up or not.

Thus, the correct option is (b).

QUESTION 10:

Which of the following statement(s) is/are **false** for IPv6? **[MSQ]**

a. IPv6 supports address class like A, B, and C.
b. IPv6 address are 128-bit long.
c. The base header size in IPv6 is 40 byte.
d. None of these.

Correct Answer: a

Detail Solution: IPv6 uses 128-bit IP addresses, and provides a large address space. Unlike IPv4 it does not have any defined classes. Base header size of IPv6 is 40 bytes it is represented by hexadecimal numbers separated by (:).

Thus the false statement is option (a).

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