# Chapter 7 Reading Organizer pg. 11-15

**7.4.2.3**. Routers with link-state routing protocols use a Hello protocol to discover any neighbors on its links. What is a neighbor?

**7.4.2.3**. What happens if a router stops receiving Hello packets from a neighbor?

**7.4.2.5**. LSPs do not need to be sent periodically. When do LSPs needs to be sent?

a.

b.

**7.4.3.1**. List the advantages of link-state routing protocols compared to distance vector routing protocols.

a.

b.

c.

d.

**7.4.3.1**. List the disadvantages link-state protocols have compared to distance vector routing protocols?

a.

b.

c.

**7.4.3.2**. Modern link-state routing protocols are designed to minimize the effects on:

a.

b.

c.

## 7.5 The Routing Table

**7.5.1.2**. What information do automatically configured routing table entries contain?

a.

b.

c.

**7.5.1.2**. Explain what each of the following routing table codes indicate.

**S** –

**D** –

**O** –

**R** –

**7.5.1.3**. Define the following terms:

a. Route source –

b. Destination network –

c. Administrative distance –

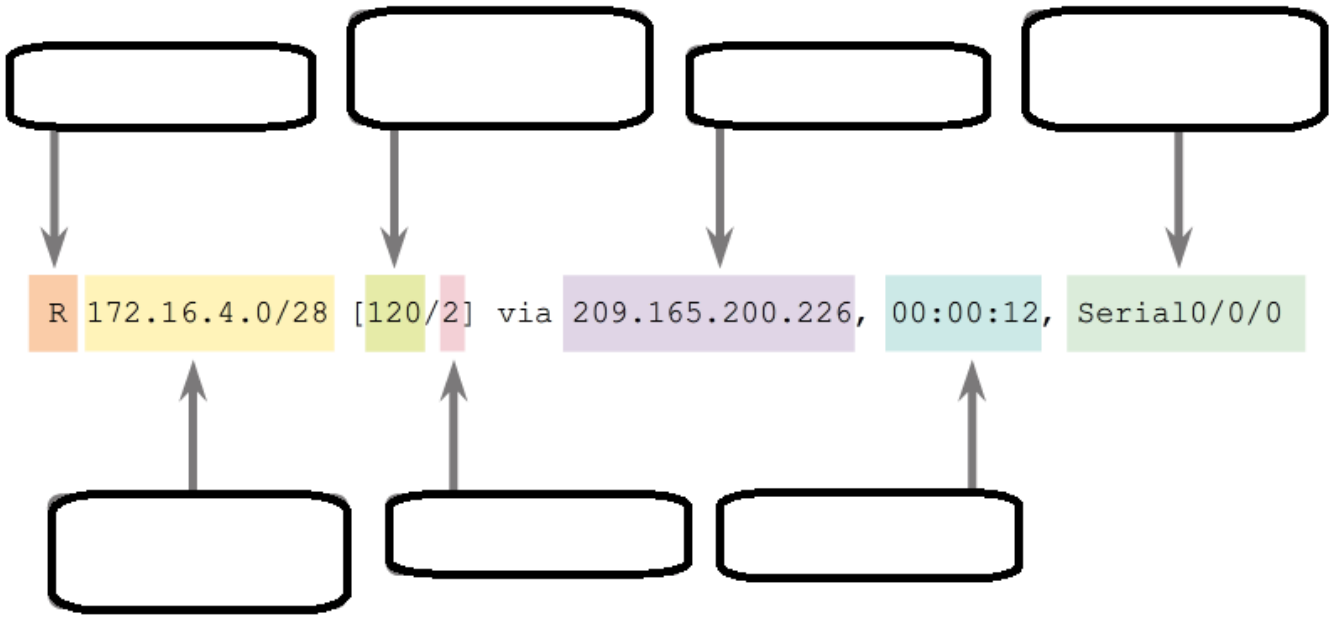
d. Metric –

e. Next hop –

f. Route timestamp –

g. Outgoing interface –

**7.5.1.3**. Identify the sections of the routing table entry.




**7.5.2.2**. What is an ultimate route?

**7.5.2.2**. What are three examples of ultimate routes?

a.

b.

c.

**7.5.2.3**. A level 1 route is a route with a subnet mask equal to or less than the classful mask of the network address. List and explain three types of level 1 routes.

a. _____ –

b. _____ –

c. _____ –

**7.5.2.3**. The source of the level 1 route can be a:

a.

b.

c.

**7.5.2.4**. A level 1 parent route is a level 1 network route that is subnetted. A parent route can never be an _____ route.

**7.5.2.5**. A level 2 child route is a route that is a subnet of a _____network address.

**7.5.2.6**. Using the routing table locate the networks listed in the chart. Determine whether the networks are classified as Level 1, Level 1 Parent, or Level 2 Child routes.

```
Gateway of last resort is 0.0.0.0 to network 0.0.0.0

   192.0.2.0/24 is variably subnetted, 2 subnets, 2 masks
C     192.0.2.0/30 is directly connected, Serial0/0/1
C     192.0.2.64/26 is directly connected, FastEthernet0/1
D  192.168.1.0/24 [90/2172416] via 192.168.2.1, 00:01:36, Serial0/0/0
C  192.168.2.0/24 is directly connected, Serial0/0/0
C  192.168.3.0/24 is directly connected, FastEthernet0/0
D  192.168.5.0/24[90/2172416] via 192.168.2.1, 00;01:36, Serial0/0/0
S* 0.0.0.0/0 is directly connected, Serial0/0/1
```

| Specified Network | Route Type |
|---|---|
| 0.0.0.0 | |
| 192.168.3.0/24 | |
| 192.0.2.64/26 | |
| 192.0.2.0/30 | |
| 192.0.2.0/24 | |

**7.5.3.2**. The best match is the route in the routing table that has the most number of far left matching bits with the destination IPv4 address of the packet. What is the route with the greatest number of equivalent far left bits, or the longest match?

**7.5.4.1**. IPv6 is classless by design; all routes are effectively _____ routes. There is no level 1 parent of level 2 child routes.

**7.5.4.2**. List and explain what information directly connected route entries display in a show IPv6 routing

a._____ –

b. _____ –

c. _____ –

d. _____ –

e. _____ –

**7.5.4.2**. Label the parts of an IPv6 routing table entry.