

Chapter 1 Tutorial Questions

1. In the three-layer network design model, network devices and links are grouped according to what three layers?
2. The ____ layer provides an optimized and reliable transport structure by forwarding traffic at very high speeds. This layer switches packets as fast as possible.
3. The _____ layer is located between the access and core layers and helps differentiate the core from the rest of the network. The purpose of this layer is to provide boundary definition using access lists and other filters to limit what gets into the core.
4. The ____ layer supplies traffic to the network and performs network entry control. End users access network resources by way of this layer.
5. True or false: Core links should be the fastest and most reliable leased lines in the WAN.
6. List at least three ways distribution layer routers bring policy to the network.
7. List five key characteristics of a scalable network.
8. Which layer must be designed to be the most reliable and available, and why?
9. What are the three best scalable routing protocols to use in the core layer?
10. Routers can distribute the traffic load across multiple links to the same destination. This process is called _____.
11. The administrator can configure a point-to-point link through the core between the two routers using IP. When this link is configured, IPX packets can be encapsulated inside IP packets. This is known as _____.
12. An _____ can be used to prevent traffic that the administrator defines as unnecessary, undesirable, or unauthorized; to control routing updates; to apply route maps; and to implement other network policies that improve efficiency by curtailing traffic.
13. _____ allows routers using distance vector protocols to exchange their complete tables during an initial connection. It then waits until the next active period on the line before again exchanging routing information. The router takes a _____ of the routing table.
14. List the three bandwidth optimization features that the IOS supports.
15. A router configured for ____ listens for interesting traffic and waits to establish the WAN link. The administrator defines what is interesting traffic. When the router receives traffic that meets the criteria, the link is activated.
16. DDR is most commonly used with ____ circuits.
17. The number of entries in a routing table can be reduced if the router uses one network address and mask to represent multiple networks or subnetworks. This technique is called route _____.

18. Routing protocols such as OSPF, IS-IS, and EIGRP send routing updates that contain information only about routes that have changed. This is called _____ routing.
19. An adaptable network must accommodate both _____ and _____ protocols.