Network+ Guide to Networks, Seventh Edition

Chapter 11, Solutions

Review Questions

1. What is the lowest layer of the OSI model at which LANs and WANs support the same protocols?

    A. Layer 2

    B. Layer 3

    C. Layer 4

    D. Layer 5

Answer: B. Layer 3

2. An organization can lease a private, _____ that is not shared with other users, or a _____ that can be physically configured over shared lines in the carrier's cloud.

    A. Permanent virtual circuit (PVC), switched virtual circuit (SVC)

    B. Switched virtual circuit (SVC), dedicated line

    C. Dedicated line, virtual circuit

    D. Switched virtual circuit (SVC), permanent virtual circuit (PVC)

Answer: C. Dedicated line, virtual circuit

3. Which WAN topology always sends data directly from its origin to its destination?

A. Bus topology

B. Ring topology

C. Star topology

D. Mesh topology

Answer: D. Mesh topology

4. What protocol is used to bond multiple T-1s?

A. LACP

B. MLP

C. TCP/IP

D. SSH

Answer: B. MLP

5. What kind of device can monitor a connection at the demarc but cannot interpret data?

A. CSU/DSU

B. NID

C. NIU

D. Smart jack

Answer: D. Smart jack

6. What specification defined the standards for broadband cable?

A. ATM

B. Digital signal

C. ANSI

D. DOCSIS

7. What technology allows a user to access the Internet through the wiring of a home?

   A. Ethernet over HDMI

   B. Broadband over power line

   C. Ethernet over power line

   D. Ethernet over SONET

8. _____ in SONET are analogous to the _____ of T-carriers.

   A. Throughput, digital signal levels

   B. OC levels, digital signal levels

   C. QoS levels, OC levels

   D. OC levels, carrier levels

9. What IEEE committee established WiMAX technologies?

   A. 802.11

   B. 802.3

C. 802.5

D. 802.16

Answer: D. 802.16

10. What method do ISPs use to purposely slow down bandwidth utilization by customers?

A. Fair access

B. Throttling

C. Blocking

D. Net neutrality

Answer: B. Throttling

11. List four WAN technologies that are carried over the PSTN.

Answer: Dial-up, ISDN, T-carriers, and DSL

12. When copper cabling is used to carry T-1 traffic, what kind of connector is used?

Answer: RJ-48

13. What two types of virtual circuits does frame relay support?

Answer: SVC (switched virtual circuit) and PVC (permanent virtual circuit)

14. What is the latest version of ADSL?

Answer: ADSL2+M or ADSL Annex M

15. By what name is SONET known internationally?

Answer: SDH (Synchronous Digital Hierarchy)

16. What is the benchmark upstream throughput of 4G services for slow-moving mobile clients?

Answer: 1 Gbps

17. What technology added data services to the GSM standard?

Answer: GPRS (General Packet Radio Services), or Enhanced GPRS (EGPRS), or EDGE (Enhanced Data rates for GSM Evolution)

18. What is the fastest wireless broadband service available in the United States?

Answer: LTE-Advanced

19. Explain what geosynchronous earth orbit (GEO) is and what it accomplishes.

Answer: Geosynchronous earth orbit (GEO) means that satellites orbit the Earth at the same rate as the Earth turns. Consequently, at every point in their orbit, the satellites maintain a constant distance from a specific point on the Earth's equator.

20. What type of device can loop the ISP's signal back to the CO for testing?

Answer: Smart jack (or CSU/DSU)