

- 1 Which WAN technology allows telecommunication companies to offer enterprises services such as storage, networking, secure Layer 2 and Layer 3 VPNs, and disaster recovery on public networks?
 - DSL
 - ATM
 - ISDN
 - **metro Ethernet**
- 2 What three technologies are associated with ISDN PRI? (Choose three.)
 - ☐ DLCI
 - ☐ **circuit switching**
 - ☐ packet switching
 - ☐ **data bearer channels**
 - ☐ switched virtual circuits
 - ☐ **time division multiplexing**
- 3 What can cause a reduction in available bandwidth on a cable broadband connection?
 - smaller cells
 - **number of subscribers**
 - committed information rate
 - distance from the central office of the provider
- 4 At which two layers of the OSI model does a WAN operate? (Choose two.)
 - ☐ **Physical Layer**
 - ☐ **Data Link Layer**
 - ☐ Network Layer
 - ☐ Transport Layer
 - ☐ Presentation Layer
 - ☐ Application Layer
- 5 Which device is used to establish the communications link between the customer equipment and the local loop for digital lines?
 - terminal adapter
 - modem
 - **CSU/DSU**
 - PBX switch
 - ISDN switch
 - Frame Relay Switch
- 6 Which WAN technology uses a fixed payload of 48 bytes and is transported across both switched and permanent virtual circuits?
 - **ATM**
 - ISDN

- Frame Relay
- metro Ethernet

7 Which two devices are commonly used as data communications equipment? (Choose two.)

- ☐ **modem**
- ☐ router
- ☐ CSU/DSU
- ☐ ISDN switch
- ☐ **Ethernet switch**

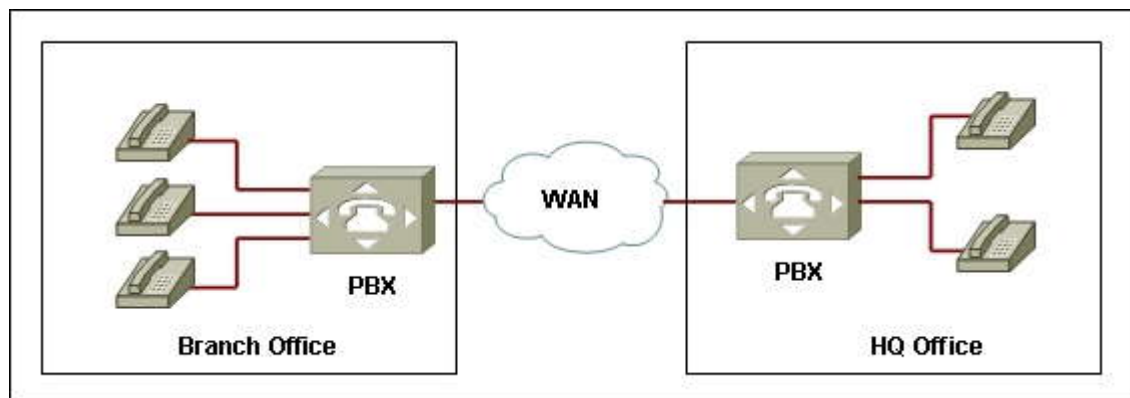
8 Which switching type will allow the communication devices in the provider's network to be shared and allocated to an individual subscriber during data transfer?

- circuit-switched
- **packet-switched**
- frame-switched
- dedicated-switched lines
- lease-switched

9 Virtual private networks (VPNs) use what type of connection from the remote site to the private network?

- PVCs
- DLCIs
- **tunnels**
- virtual circuits
- dedicated Layer 2 links

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Refer to the exhibit. The users in the branch office initiated three simultaneous calls to the HQ office. What technology is used to ensure that a fixed-capacity connection is made available to each of the calls?

- **time-division multiplexing (TDM)**
- signaling
- X.25

- ISDN BRI

11 A U.S. company requires a WAN connection used only to transfer sales data from individual stores to the home office. All transfers will occur after business hours. The required bandwidth for this connection is estimated to be less than 38 kbps. Which type of connection requires the least investment for this company?

- ATM
- ISDN
- **analog dialup**
- T1 Leased Line

12 Which three WAN devices can be found in the cloud? (Choose three.)

- ☐ Ethernet switches
- ☐ **Frame Relay switches**
- ☐ **ATM switches**
- ☐ bridges
- ☐ **core routers**
- ☐ repeaters

13 Which term describes a device that will put data on the local loop?

- DLCI
- CO
- **DCE**
- DTE
- PRI
- BRI

14 Which packet-switched WAN technology offers high-bandwidth connectivity capable of managing data, voice, and video all on the same infrastructure?

- Time Division Multiplexing (TDM)
- **metro Ethernet**
- Integrated Services Digital Network (ISDN)
- Public Switched Telephone Network (PSTN)

15 What are two advantages of an analog PSTN WAN connection? (Choose two.)

- ☐ **low cost**
- ☐ **availability**
- ☐ traffic encryption
- ☐ available bandwidth
- ☐ support for voice and video

16 Which three features are identified with Frame Relay connections? (Choose three.)

- ☐ CIR
- ☐ DLCI
- ☐ DSLAM
- ☐ PVC
- ☐ SPID
- ☐ 53-byte cells

17 Which networking device is typically used to concentrate the dial-in and dial-out traffic of multiple users and from a network?

- ☐ core router
- ☒ **access server**
- ☐ Frame Relay switch
- ☐ ATM switch

18 What are three advantages of permanent dedicated circuits over shared lines such as Frame-Relay? (Choose three.)

- ☐ **dedicated bandwidth capacity**
- ☐ **eliminates latency and jitter between endpoints**
- ☐ low cost of implementation
- ☐ connections can be multiplexed over the same leased line
- ☐ **each endpoint has a dedicated physical router interface**
- ☐ eliminates point-to-point connections

19 A company needs a WAN connection that is capable of transferring voice, video, and data at a minimum rate of 155 Mbps. Which WAN connection is the best choice?

- ☒ X.25
- ☒ DSL
- ☒ ATM
- ☒ ISDN BRI
- ☒ **ISDN PRI**