

Chapter 2: E-Business Technology Basics

TRUE/FALSE

1. Networks of computers and the Internet that connects them to each other form the basic technological structure that underlies virtually all electronic commerce.

ANS: T PTS: 1

2. The USENET was the earliest of the networks that eventually combined to become what we now call the Internet.

ANS: F PTS: 1

3. E-mail was born in 1972 when a researcher wrote a program that could send and receive messages over the Defense Department network.

ANS: T PTS: 1

4. In 1989, the NSF permitted two commercial e-mail services, MCI Mail and CompuServe, to establish limited connections to the Internet for the sole purpose of exchanging e-mail transmissions with users of the Internet.

ANS: T PTS: 1

5. At a technological level, the Web is nothing more than software that runs on computers that are connected to the Internet.

ANS: T PTS: 1

6. An HTML document is similar to a word-processing document in that it specifies how a particular text element will appear.

ANS: F PTS: 1

7. A network of computers that are located close together—for example, in the same building—is called a local area network.

ANS: T PTS: 1

8. IP addresses appear as five numbers separated by periods.

ANS: F PTS: 1

9. Domain names are sets of words that are assigned to specific IP addresses.

ANS: T PTS: 1

10. The Internet Corporation for Assigned Names and Nuances has the responsibility of managing domain names and coordinating them with the IP address registrars.

ANS: F PTS: 1

11. The set of rules for delivering Web page files over the Internet is in a protocol called the Hypertext Transfer Protocol (HTTP).

ANS: T PTS: 1

12. The acronym SMTP is short for Simple Markup Tracer Protocol.

ANS: F PTS: 1

13. IMAP is a newer e-mail protocol that performs the same basic functions as POP, but includes additional features.

ANS: T PTS: 1

14. The POP protocol provides support for MIME.

ANS: T PTS: 1

15. HTML is a meta language because users can create their own markup elements that extend the usefulness of XML.

ANS: F PTS: 1

16. SGML offers a system of marking up documents that is independent of any software application.

ANS: T PTS: 1

17. The term cascading is used because designers can apply many style sheets to the same Web page, one on top of the other.

ANS: T PTS: 1

18. Although fax, telephone, e-mail, and overnight express carriers have been the main communications tools for business for many years, extranets can replace many of them at a lower cost.

ANS: T PTS: 1

19. An intranet extends beyond the organization that created it.

ANS: F PTS: 1

20. The Internet provides a high degree of security in its basic structure.

ANS: F PTS: 1

21. The “virtual” part of VPN means that the connection seems to be a temporary, internal network connection, but the connection is actually permanent.

ANS: F PTS: 1

22. Establishing VPNs does not require leased lines.

ANS: T PTS: 1

23. Although an extranet is a VPN, not every VPN is an extranet.

ANS: F PTS: 1

24. The higher the bandwidth, the faster data files travel and the faster Web pages appear on your screen.

ANS: T PTS: 1

25. Asymmetric connections provide the same bandwidth for each direction.

ANS: F PTS: 1

MULTIPLE CHOICE

1. HTML was developed by ____.

- | | |
|------------|--------------------|
| a. ARPANET | c. Ted Nelson |
| b. NSF | d. Tim Berners-Lee |

ANS: D PTS: 1

2. ____ was the first Web browser that became widely available for personal computers.

- | | |
|-------------|----------------------|
| a. Mosaic | c. Internet Explorer |
| b. Netscape | d. CompuServe |

ANS: A PTS: 1

3. The combination of telephone lines and the closed switches that connect them to each other is called a ____.

- | | |
|--------|------------|
| a. LAN | c. circuit |
| b. WAN | d. pathway |

ANS: C PTS: 1

4. On a packet-switched network, files and e-mail messages are broken down into small pieces, called ____.

- | | |
|-------------|-------------|
| a. messages | c. circuits |
| b. pieces | d. packets |

ANS: D PTS: 1

5. When packets leave a network to travel on the Internet, they must be translated into a standard format. ____ usually perform this translation function.

- | | |
|-------------|-----------------------|
| a. Switches | c. Routers |
| b. Bridges | d. Routing algorithms |

ANS: C PTS: 1

6. Routers and the telecommunications lines connecting them are collectively referred to as ____.

- a. backbone routers
- b. Internet routers
- c. an asynchronous backbone
- d. the Internet backbone

ANS: D PTS: 1

7. A ____ is a collection of rules for formatting, ordering, and error checking data sent across a network.
- a. routing algorithm
 - b. backbone router
 - c. protocol
 - d. packet

ANS: C PTS: 1

8. ____ determine how the sending device indicates that it has finished sending a message, and how the receiving device indicates that it has received the message.
- a. Routers
 - b. Bridges
 - c. Protocols
 - d. Adapters

ANS: C PTS: 1

9. In networking applications, an 8-bit number is often called a(n) ____.
- a. octet
 - b. netbit
 - c. piconet
 - d. bit

ANS: A PTS: 1

10. Network engineers have devised a number of stopgap techniques to stretch the supply of IP addresses. One of the most popular techniques is ____.
- a. subnetting
 - b. subletting
 - c. sub-blocking
 - d. piconetting

ANS: A PTS: 1

11. A computer called a ____ converts private IP addresses into normal IP address when it forwards packets from those computers to the Internet.
- a. routing algorithm device
 - b. network address translation device
 - c. subnet translation device
 - d. private network device

ANS: B PTS: 1

12. IPv6 uses a ____ number for addresses.
- a. 32-bit
 - b. 56-bit
 - c. 128-bit
 - d. 256-bit

ANS: C PTS: 1

13. The ____ numbering system uses 16 characters.
- a. hexadecimal
 - b. decimal
 - c. binary
 - d. ASCII

ANS: A PTS: 1

14. ____ are sets of words that are assigned to specific IP addresses.
- a. Domain names
 - b. URLs
 - c. Octets
 - d. Piconets

ANS: A PTS: 1

15. The purpose of a(n) ____ is to respond to requests for Web pages from Web clients.
- a. URL
 - b. e-mail
 - c. Web server
 - d. top-level domain
- ANS: C PTS: 1
16. The combination of the protocol name and the domain name is called a ____.
- a. URT
 - b. URO
 - c. URL
 - d. HTTP
- ANS: C PTS: 1
17. ____ specifies the format of a mail message and describes how mail is to be administered on the e-mail server and transmitted on the Internet.
- a. SMTP
 - b. TCP/IP
 - c. MIME
 - d. POP
- ANS: A PTS: 1
18. ____ is a set of rules for handling binary files, such as word-processing documents, spreadsheets, photos, or sound clips, that are attached to e-mail messages.
- a. IMAP
 - b. MIME
 - c. SMTP
 - d. POP
- ANS: B PTS: 1
19. A newer e-mail protocol that performs the same basic functions as POP, but includes additional features, is known as ____.
- a. IMAP
 - b. SMTP
 - c. POPI
 - d. IPOP
- ANS: A PTS: 1
20. ____ lets users create and manipulate e-mail folders and individual e-mail messages while the messages are still on the e-mail server.
- a. POP
 - b. SMTP
 - c. IMAP
 - d. MIME
- ANS: C PTS: 1
21. The early versions of ____ let Web page designers create text-based electronic documents with headings, title bar titles, bullets, lines, and ordered lists.
- a. HTTP
 - b. HTML
 - c. SGML
 - d. XML
- ANS: B PTS: 1
22. In HTML, hyperlinks are created using the HTML ____ tag.
- a. head
 - b. anchor
 - c. title
 - d. ol
- ANS: B PTS: 1

23. A(n) ____ is an interconnected network, usually one that uses the TCP/IP protocol set, and does not extend beyond the organization that created it.
- a. Internet
 - b. extranet
 - c. intranet
 - d. ARPANET

ANS: C PTS: 1

24. A(n) ____ is like a separate, covered commuter lane on a highway (the Internet) in which passengers are protected from being seen by the vehicles traveling in the other lanes.
- a. VPN
 - b. IP wrapper
 - c. extranet
 - d. IAP

ANS: A PTS: 1

25. An extranet that uses public networks and their protocols to send sensitive data to partners, customers, suppliers, and employees using a system called IP tunneling or encapsulation is known as a ____.
- a. public network
 - b. virtual public network
 - c. virtual private network
 - d. private network

ANS: C PTS: 1

COMPLETION

1. A computer _____ is any technology that allows people to connect computers to each computer.

ANS: network

PTS: 1

2. A network which uses a specific set of rules and connects networks all over the world to each other, is called the _____.

ANS: Internet

PTS: 1

3. The part of the Internet known as the _____ is a subset of the computers on the Internet that are connected to one other in a specific way that makes them and their contents easily accessible to each other.

ANS:

World Wide Web

WWW

Web

WWW (World Wide Web)

World Wide Web (WWW)

PTS: 1

4. A(n) _____ is an e-mail address that forwards any message it receives to any user subscribed to the list.

ANS: mailing list

PTS: 1

5. In 1979, a group of students and programmers at Duke University and the University of North Carolina started _____, which allows anyone who connects to the network to read and post articles on a variety of subjects.

ANS:
Usenet
User's News Network

PTS: 1

6. Usenet survives on the Internet today, with more than 1000 different topic areas that are called _____.

ANS: newsgroups

PTS: 1

7. Internet _____ are computers that are directly connected to the Internet.

ANS: hosts

PTS: 1

8. _____ providers sell Internet access rights directly to larger customers and indirectly to smaller firms and individuals through other companies, called ISPs.

ANS: Network access

PTS: 1

9. A(n) _____ server is a computer that stores files written in Hypertext Markup Language (HTML).

ANS: hypertext

PTS: 1

10. Programs apply their routing algorithms to information they have stored in routing tables or _____ tables.

ANS: configuration

PTS: 1

11. The routers connected to the Internet backbone are sometimes called _____ routers.

ANS: backbone

PTS: 1

12. The _____ Protocol controls the disassembly of a message or a file into packets before it is transmitted over the Internet, and it controls the reassembly of those packets into their original formats when they reach their destinations.

ANS: Transmission Control

PTS: 1

13. The _____ Protocol specifies the addressing details for each packet, labeling each with the packet's origination and destination addresses.

ANS: Internet

PTS: 1

14. The set of rules for delivering Web pages over the Internet is in a protocol called the _____.

ANS:

Hypertext Transfer Protocol

Hypertext Transfer Protocol (HTTP)

HTTP

HTTP (Hypertext Transfer Protocol)

PTS: 1

15. _____ is a metalanguage, which is a language that can be used to define other languages.

ANS:

SGML

Standard Generalized Markup Language

SGML (Standard Generalized Markup Language)

Standard Generalized Markup Language (SGML)

PTS: 1

16. HTML, XML, and XHTML have descended from the original _____ specification.

ANS:

SGML

Standard Generalized Markup Language

SGML (Standard Generalized Markup Language)

Standard Generalized Markup Language (SGML)

PTS: 1

17. In HTML, the text elements that are related to each another are called _____ elements.

ANS: hypertext

PTS: 1

18. A(n) _____ hyperlink structure resembles conventional paper documents in that the reader begins on the first page and clicks a Next button to move to the next page in a serial fashion.

ANS: linear

PTS: 1

19. _____ let designers define formatting styles that can be applied to multiple Web pages.

ANS:

Cascading Style Sheets

CSS

CSS (Cascading Style Sheets)

Cascading Style Sheets (CSS)

PTS: 1

20. An XML document is embedded within the _____ document.

ANS:

HTML

Hypertext Markup Language

HTML (Hypertext Markup Language)

Hypertext Markup Language (HTML)

PTS: 1

21. _____ tags do not specify how text appears on a Web page; the tags convey the meaning of the information included within them.

ANS:

Extensible Markup Language

XML

XML (Extensible Markup Language)

Extensible Markup Language (XML)

PTS: 1

22. A(n) _____ is an intranet that has been extended to include specific entities outside the boundaries of the organization.

ANS: extranet

PTS: 1

23. Any computer network or telecommunications network that is made available to the public is known as a(n) _____.

ANS: public network

PTS: 1

24. _____ is the amount of data that can travel through a communication medium per unit of time.

ANS: Bandwidth

PTS: 1

25. Upstream bandwidth is also called _____ bandwidth.

ANS: upload

PTS: 1

ESSAY

1. As an individual packet travels from one network to another, the computers through which the packet travels determine the best route for getting the packet to its destination. Describe this process.

ANS:

The computers that decide how to best forward each packet are called routing computers, router computers, routers, gateway computers (because they act as the gateway from a LAN or WAN to the Internet) or border routers (because they are located at the border between the organization and the Internet.) The programs on the routers that determine the best path contain rules called routing algorithms. The programs apply these algorithms to information they have stored in routing tables or configuration tables. This information includes lists of connections that lead to particular groups of other routers, rules that specify which connection to use first, and rules for handling instances of heavy packet traffic and network congestion.

PTS: 1

2. Identify the four key rules for message handling.

ANS:

The open architecture philosophy developed for the evolving ARPANET, which later became the core of the Internet, included the use of a common protocol for all computers connected to the Internet and four key rules for message handling: 1) Independent networks should not require any internal changes to be connected to the network, 2) Packets that do not arrive at their destinations must be retransmitted from their source network, 3) Router computers act as receive-and-forward devices; they do not retain information about the packets that they handle, and 4) No global control exists over the network.

PTS: 1

3. What is the difference between TCP and IP?

ANS:

The TCP controls the disassembly of a message or a file into packets before it is transmitted over the Internet, and it controls the reassembly of those packets into their original formats when they reach their destinations. The IP specifies the addressing details for each packet, labeling each with the packet's origination and destination addresses.

PTS: 1

4. What is the difference between a public network and a private network?

ANS:

A public network is any computer network or telecommunications network that is available to the public. The Internet is one example of a public network. A private network is a private, leased-line connection between two companies that physically connects their intranets to one another.

PTS: 1

5. What are the advantages of Bluetooth technology?

ANS:

One major advantage of Bluetooth technology is that it consumes very little power, which is an important consideration for many devices. Another advantage is that Bluetooth devices can discover each other and exchange information automatically. For example, a person using a laptop computer in a temporary office can print to a local Bluetooth-enabled printer without logging in to the network or installing software in either device. The printer and laptop computer electronically recognize each other as Bluetooth devices and immediately can begin exchanging information.

PTS: 1