

## CHAPTER 15: DATABASE CONNECTIVITY AND WEB TECHNOLOGIES

1. Database connectivity software is also known as database middleware because it interfaces between the application program and the database.
- a. True
  - b. False

ANSWER: True

PTS: 1

NAT: BUSPROG: Technology  
KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology  
TOP: Database Connectivity

REF: p.681

2. A good API makes it easy to develop a program by providing all of the building blocks.
- a. True
  - b. False

ANSWER: True

PTS: 1

NAT: BUSPROG: Technology  
KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology  
TOP: Database Connectivity

REF: p.683

3. Among the three levels of compliance of the ODBC API standards, Level-1 provides support for procedural SQL and cursors.
- a. True
  - b. False

ANSWER: False

PTS: 1

NAT: BUSPROG: Technology  
KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology  
TOP: Database Connectivity

REF: p.683

4. Having a web-based database interface eliminates the design and implementation issues of a database system.
- a. True
  - b. False

ANSWER: False

PTS: 1

NAT: BUSPROG: Technology  
KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology  
TOP: Database Internet Connectivity

REF: p.685

5. Whether you purchase online or by standing in line, the system-level transaction details are essentially the same, and they require the same basic database structures and relationships.
- a. True
  - b. False

ANSWER: True

PTS: 1

NAT: BUSPROG: Technology  
KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology  
TOP: Database Internet Connectivity

REF: p.692

## Chapter 15: Database Connectivity and Web Technologies

6. The effects of bad database design, implementation, and management are magnified in an environment in which the number of transactions is less than one hundred.
- a. True
  - b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.692

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

7. The benefits of the web as a data access platform arise from its cross-platform functionality and the simplicity of its interface.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p.693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

8. When an end user uses a web browser to dynamically query a database, the client browser actually requests a web page from the web server.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p.693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

9. In the database query scenario, the web server generates the webpage contents before it sends the page to the client web browser.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

10. Extending the web server functionality implies that the web server and the web-to-database middleware will properly communicate with each other.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

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11. The Common Gateway Interface (CGI) is a newer web server interface standard that is much more efficient and faster than a dynamic link library (DLL).

a. True  
b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.695

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

12. An application programming interface (API) uses script files that perform specific functions based on the client's parameters that are passed to the web server.

a. True  
b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.695

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

13. The browser's interpretation and presentation capabilities are sufficient to develop web-based applications.

a. True  
b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

14. The label "stateless system" indicates that, at any given time, there is an open communication line between the server and each client accessing it.

a. True  
b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p. 697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

15. The only time the client and server computers communicate is when the client requests a page and the server sends the requested page to the client.

a. True  
b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

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16. The use of HTML does not equip a web browser with computational abilities beyond formatting output text and accepting form field inputs.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

17. A document type definition (DTD) can be referenced by many Extensible Markup Language (XML) documents of the same type.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Moderate

REF: p.702

NAT: BUSPROG: Analytic

STATE: DISC: Information Technology

KEY: Bloom's: Comprehension

TOP: Extensible Markup Language (XML)

18. A plug-in is an external application that is automatically invoked by a web browser when needed.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

19. A client-side extension is a program that interacts directly with the web server to handle specific types of requests.
- a. True
  - b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p. 697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

20. HTML is designed to facilitate the extraction and manipulation of data from structured documents over the Internet.
- a. True
  - b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.703

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

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21. The first line of an XML document represents the document declaration, and it is mandatory.
- a. True
  - b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p. 703

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

22. In a document type definition (DTD) file, a plus (+) symbol beside an element indicates that it is an optional child element within its parent.

- a. True
- b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.704

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

23. Cloud services allow any organization to quickly and economically add information technology services to its IT portfolio.

- a. True
- b. False

ANSWER: True

PTS: 1

DIF: Difficulty: Easy

REF: p.710

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

24. The initial costs of using cloud services tend to be significantly higher than building on-premise IT infrastructures.

- a. True
- b. False

ANSWER: False

PTS: 1

DIF: Difficulty: Easy

REF: p.712

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

25. \_\_\_\_\_ is a collection of technologies used to access any type of data source and manage the data through a common interface.

- a. DAO      b. UDA
- c. ODBC     d. OLE-DB

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.682

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

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26. ODBC works on the\_\_\_\_\_operating system.

- a. Kronos      b. UNIX
- c. Windows    d. Mac

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.683

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

27. \_\_\_\_\_is a higher-level, object-oriented application interface used to access remote database servers.

- a. UDA      b. ODBC
- c. DAO      d. RDO

ANSWER: d

PTS: 1

DIF: Difficulty: Easy

REF: p. 683

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

28. In the ODBC architecture, a(n)\_\_\_\_\_is in charge of managing all database connections.

- a. ODBC API      b. DLL
- c. ODBC driver    d. driver manager

ANSWER: d

PTS: 1

DIF: Difficulty: Easy

REF: p. 683

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

29. The ODBC API standard defines three levels of compliance:\_\_\_\_\_, Level-1, and Level-2, which provide increasing levels of functionality.

- a. Elementary    b. Basic
- c. Core            d. Level-0

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.685

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

30. Based on Microsoft's Component Object Model (COM),\_\_\_\_\_is database middleware that adds object-oriented functionality for access to relational and nonrelational data.

- a. MS-DB      b. OLE-DB
- c. COM-DB    d. ODBC

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p. 685

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

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31. In the ADO.NET framework, the \_\_\_\_\_ object contains the actual SQL code or a stored procedure call to be run by the database.
- a. Command              b. DataReader
  - c. DataAdapter        d. DataSet

ANSWER: a

PTS: 1

DIF: Difficulty: Easy

REF: p.690

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

32. In the ADO.NET framework, the \_\_\_\_\_ object is the in-memory representation of the data in the database.
- a. Command              b. DataReader
  - c. DataAdapter        d. DataSet

ANSWER: d

PTS: 1

DIF: Difficulty: Easy

REF: p. 690

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

33. The \_\_\_\_\_ is the most specialized object in the ADO.NET framework.
- a. Command              b. DataReader
  - c. DataAdapter        d. DataSet

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p. 690

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

34. \_\_\_\_\_ is an object-oriented programming language developed by Sun Microsystems that runs on top of web browser software.
- a. Visual Basic        b. Java
  - c. JavaScript          d. VBScript

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.691

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

35. One of the advantages of \_\_\_\_\_ over other middleware is that it requires no configuration on the client side.
- a. ODBC                b. JDBC
  - c. OLE-DB            d. AD.NET

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.692

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

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36. Which of the following is the first step in the exchange between a web browser and a database?
- The HTML output is displayed on the client computer's web browser.
  - The middleware receives the query result and creates the HTML-formatted page.
  - The client's web browser requests a page from a web server.
  - The web-to-database middleware uses ODBC to connect to the database.

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

37. Another name for a database server-side extension program is\_\_\_\_\_.
- a web server
  - a web application middleware
  - web-to-database middleware
  - a database application server

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.694

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

38. Which of the following is a well-defined web-server interface?
- Common Gateway Interface
  - Tiny Internet Interface
  - Windows NT
  - Command Line Interface

ANSWER: a

PTS: 1

DIF: Difficulty: Easy

REF: p.695

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

39. The main disadvantage of using CGI scripts is that:
- they cause a resource bottleneck since they have to execute separately for each user request.
  - they are specific to the web server and to the operating system, thus being platform dependent.
  - an error in one script can damage and bring down the web server completely.
  - they do not have the capability to process forms or prepare outputs based on form data.

ANSWER: a

PTS: 1

DIF: Difficulty: Easy

REF: p.695

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40. A(n)\_\_\_\_\_can use a shared connection to the database instead of creating a new one every time.
- DLL
  - API
  - web browser
  - HTTP GET request

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.695

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41. What is a disadvantage of using an API web-server interface?
- a. It is slower than CGI scripts.
  - b. It is inefficient because it uses DLLs.
  - c. An external program needs to run for each user request.
  - d. An API error can bring down the entire web server.

ANSWER: d

PTS: 1

DIF: Difficulty: Easy

REF: p.695

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

42. Each time an end user clicks a hyperlink, the browser generates a(n)\_\_\_\_\_page request that is sent to the designated web server using the TCP/IP Internet protocol.
- a. HTML
  - b. XML
  - c. HTTP GET
  - d. API

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.696

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

43. The web browser's job is to interpret the HTML code that it receives from a web server and to:
- a. develop web-based applications.
  - b. display it in a standard formatted way.
  - c. perform immediate data entry validation.
  - d. extract details, such as order data, from it.

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.696

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

44. You must use plug-ins and other client-side extensions:
- a. to create an open communication line between a server and its clients.
  - b. to eliminate the need for running external programs for each client request.
  - c. to improve processing capabilities of a browser.
  - d. to create dynamic web search pages.

ANSWER: c

PTS: 1

DIF: Difficulty: Easy

REF: p.697

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

45. Which of the following is a client-side extension?
- a. ActiveX
  - b. ODBC
  - c. SQL\*Net
  - d. TCP/IP

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ANSWER: a

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.697

46. Among client-side extensions, \_\_\_\_\_ is a Microsoft specification for writing programs that run inside the Internet Explorer browser.

- a. COBOL
- b. ActiveX
- c. JavaScript
- d. Visor.Net

ANSWER: b

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.697

47. \_\_\_\_\_ is a scripting language that allows web authors to design interactive sites.

- a. Visual Basic
- b. HTML
- c. JavaScript
- d. Java

ANSWER: c

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.697

48. Which of the following is true of a web application server?

- a. It is Microsoft's implementation of a superset of the SQL Access Group CLI standard for database access.
- b. It is automatically invoked by the browser when needed.
- c. It runs on the client machine, freeing server resources.
- d. It provides security and authentication of users through user IDs and passwords.

ANSWER: d

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.698

49. \_\_\_\_\_ code is embedded inside an HTML page and is activated by triggering events such as clicking on a link.

- a. XML
- b. SQL
- c. Visual Basic
- d. VBScript

ANSWER: d

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.698

50. \_\_\_\_\_ is a web application server that provides the ability to connect web servers to multiple data sources.

- a. MS Access
- b. ColdFusion/JRun
- c. FoxPro
- d. dBase

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ANSWER: b

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Database Internet Connectivity

REF: p.698

51. Which of the following is a characteristic of the XML metalanguage?
- a. It is concerned with the way data are displayed.
  - b. It allows the definition of new tags.
  - c. You can use the // symbol for entering a comment in the XML document.
  - d. It can be used as a replacement of HTML.

ANSWER: b

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Extensible Markup Language (XML)

REF: p.702

52. Every XML document has a\_\_\_\_\_.
- a. root element      b. base tag
  - c. schema              d. DTD

ANSWER: a

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Extensible Markup Language (XML)

REF: p.703

53. A(n)\_\_\_\_\_file provides the composition of the database's logical model and defines the syntax rules for an XML document.
- a. XMLD      b. XHTML
  - c. DTD        d. meta

ANSWER: c

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Extensible Markup Language (XML)

REF: p.704

54. The \_\_\_\_\_ is an advanced data definition language that is used to describe the structure of XML data documents.
- a. XHTML      b. HTML schema
  - c. DTD        d. XML schema

ANSWER: d

PTS: 1

NAT: BUSPROG: Technology

KEY: Bloom's: Knowledge

DIF: Difficulty: Easy

STATE: DISC: Information Technology

TOP: Extensible Markup Language (XML)

REF: p.705

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55. Using\_\_\_\_\_, you can extract data from an XML document and convert it into a text file.
- a. XMLD      b. XSLT
  - c. DTD        d. XML schema

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.706

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

56. \_\_\_\_\_ is a computing model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computer resources that can be rapidly provisioned and released with minimal management effort or service provider interaction.
- a. Cloud computing      b. OBDC
  - c. SQL data services     d. database middleware

ANSWER: a

PTS: 1

DIF: Difficulty: Easy

REF: p.709-710

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

57. \_\_\_\_\_cloud is a type of cloud infrastructure that is built by a third-party organization to sell cloud services to the general public.
- a. Community      b. Public
  - c. Exclusive        d. Private

ANSWER: b

PTS: 1

DIF: Difficulty: Easy

REF: p.712

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

58. In the\_\_\_\_\_category, the cloud service provider offers the capability to build and deploy consumer-created applications using the provider's cloud infrastructure.
- a. Application as a Service (AaaS)      b. Infrastructure as a Service (IaaS)
  - c. Software as a Service (SaaS)        d. Platform as a Service (PaaS)

ANSWER: d

PTS: 1

DIF: Difficulty: Easy

REF: p.713

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

59. ODBC, OLE-DB, and ADO.NET form the backbone of the\_\_\_\_\_architecture.

ANSWER: UDA

Universal Data Access (UDA)

Universal Data Access

PTS: 1

DIF: Difficulty: Easy

REF: p.682

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

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60. Open Database Connectivity (ODBC), a superset of the SQL Access Group Call Level Interface (CLI), is implemented by\_\_\_\_\_.

ANSWER: Microsoft

PTS: 1

DIF: Difficulty: Easy

REF: p.683

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

61. A(n)\_\_\_\_\_is a unique name by which the data source will be known to ODBC, and therefore, to applications.

ANSWER: DSN

data source name

data source name (DSN)

PTS: 1

DIF: Difficulty: Easy

REF: p.684

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

62. In the context of OLE-DB, a \_\_\_\_\_is an object (application or process) that requests and uses data.

ANSWER: consumer

PTS: 1

DIF: Difficulty: Easy

REF: p.685

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

63. In the OLE-DB model, the \_\_\_\_\_acts like a data consumer of the data provider and as a data provider for the data consumer (end-user application).

ANSWER: service provider

PTS: 1

DIF: Difficulty: Easy

REF: p.686

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

64. A(n) \_\_\_\_\_ is a program written in a programming language that is not compiled, but is interpreted and executed at run time.

ANSWER: script

PTS: 1

DIF: Difficulty: Easy

REF: p.687

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

65. \_\_\_\_\_provides a unified interface to access data from any programming language that uses the underlying OLE- DB objects.

ANSWER: ActiveX Data Objects

ADO

ActiveX Data Objects (ADO)

PTS: 1

DIF: Difficulty: Easy

REF: p.687

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

66. The Microsoft \_\_\_\_\_framework is a component-based platform for developing distributed, heterogeneous, interoperable applications aimed at manipulating any type of data over any network under any operating system and any programming language.

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ANSWER: .NET

PTS: 1

DIF: Difficulty: Easy

REF: p.687

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

67. \_\_\_\_\_ is an application programming interface that allows a Java program to interact with a wide range of data sources (relational databases, tabular data sources, spreadsheets, and text files).

ANSWER: Java Database

Connectivity JDBC

Java Database Connectivity (JDBC)

PTS: 1

DIF: Difficulty: Easy

REF: p.691

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Connectivity

68. \_\_\_\_\_ webpages are at the heart of current generation websites.

ANSWER: Dynamic

PTS: 1

DIF: Difficulty: Easy

REF: p.693

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

69. APIs are faster than \_\_\_\_\_ scripts because the code resides in memory and there is no need to run an external program for each request.

ANSWER: CGI

Common Gateway Interface

Common Gateway Interface (CGI)

PTS: 1

DIF: Difficulty: Easy

REF: p.695

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

70. Regardless of the type of web server interface used, a web-to-database \_\_\_\_\_ program must be able to connect with a database.

ANSWER: middleware

PTS: 1

DIF: Difficulty: Easy

REF: p.696

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

71. A web \_\_\_\_\_ server is a middleware application that expands the functionality of web servers by linking them to a wide range of services.

ANSWER: application

PTS: 1

DIF: Difficulty: Easy

REF: p.698

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

72. To prevent the server from performing all data validation, \_\_\_\_\_ data input validation is one of the most basic requirements for web applications.

## Chapter 15: Database Connectivity and Web Technologies

ANSWER: client-side  
client side  
clientside

PTS: 1

DIF: Difficulty: Easy

REF: p.698

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Database Internet Connectivity

73. \_\_\_\_\_, or transactions done over the Internet, enables all types of organizations to sell products and services to a global market.

ANSWER: E-commerce

PTS: 1

DIF: Difficulty: Easy

REF: p.702

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

74. XML is derived from the \_\_\_\_\_, an international standard for the publication and distribution of highly complex technical documents.

ANSWER: Standard Generalized Markup Language

SGML

Standard Generalized Markup Language (SGML)

PTS: 1

DIF: Difficulty: Easy

REF: p.702

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

75. XML tags must be well formed, that is, each opening tag must have a corresponding \_\_\_\_\_ tag.

ANSWER: closing

PTS: 1

DIF: Difficulty: Easy

REF: p.703

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

76. A(n) \_\_\_\_\_ provides limited additional semantic value to XML, such as data type support or data validation rules.

ANSWER: DTD

document type definition

document type definition (DTD)

PTS: 1

DIF: Difficulty: Easy

REF: p.705

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

77. A DBMS that supports \_\_\_\_\_ exchanges can integrate with external systems such as the web, mobile data, and legacy systems, thus enabling the creation of new types of systems.

ANSWER: XML

PTS: 1

DIF: Difficulty: Easy

REF: p.708-709

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

## Chapter 15: Database Connectivity and Web Technologies

78. XML is used to create \_\_\_\_\_ vocabularies for entire industries.

*ANSWER:* metadictionaries

PTS: 1

DIF: Difficulty: Easy

REF: p.709

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Extensible Markup Language (XML)

79. \_\_\_\_\_ refers to a cloud computing-based data management service that provides relational data storage, access, and management to companies of all sizes without the typical high costs of in-house hardware, software, infrastructure, and personnel.

*ANSWER:* SQL data services (SDS)

SQL data services

SDS

PTS: 1

DIF: Difficulty: Easy

REF: p.716

NAT: BUSPROG: Technology

STATE: DISC: Information Technology

KEY: Bloom's: Knowledge

TOP: Cloud Computing Services

80. What are the components in the basic ODBC architecture?

*ANSWER:* The basic ODBC architecture has three main components: a high-level ODBC API through which application programs access ODBC functionality, a driver manager that is in charge of managing all database connections, and an ODBC driver that communicates directly to the DBMS.

PTS: 1

DIF: Difficulty: Moderate

REF: p.683

NAT: BUSPROG: Analytic

STATE: DISC: Information Technology

KEY: Bloom's: Comprehension

TOP: Database Connectivity

81. What are the main types of objects in the OLE-DB model? Explain.

*ANSWER:* The functionality of OLE-DB model is divided into two types of objects: consumers and providers.

1. Consumers are objects (applications or processes) that request and use data. Consumers request data by invoking the methods exposed by the data provider objects (public interface) and passing the required parameters.
2. Providers are objects that manage the connection with a data source and provide data to the consumers. Providers are divided into two categories: data providers and service providers.
  - Data providers provide data to other processes. Database vendors create data provider objects that expose the functionality of the underlying data source (relational, object-oriented, text, and so on).
  - Service providers provide additional functionality to consumers. The service provider is located between the data provider and the consumer. The service provider requests data from the data provider, transforms the data, and then provides the transformed data to the data consumer. In other words, the service provider acts like a data consumer of the data provider and as a data provider for the data consumer (end-user application). For example, a service provider could offer cursor management services, transaction management services, query processing services, and indexing services.



## Chapter 15: Database Connectivity and Web Technologies

PTS: 1	DIF: Difficulty: Moderate	REF: p.685-686
NAT: BUSPROG: Analytic	STATE: DISC: Information Technology	
KEY: Bloom's: Comprehension	TOP: Database Connectivity	

82. What is a server-side extension? Explain.

**ANSWER:** A server-side extension is a program that interacts directly with the web server to handle specific types of requests. A server-side extension program retrieves the data from databases and passes the retrieved data to the web server, which in turn sends the data to the client's browser for display. A server-side extension makes it possible to retrieve and present the query results, but more importantly, it provides its services to the web server in a way that is totally transparent to the client browser. In short, the server-side extension adds significant functionality to the Web server, and therefore to the Internet.

PTS: 1	DIF: Difficulty: Moderate	REF: p.693
NAT: BUSPROG: Analytic	STATE: DISC: Information Technology	
KEY: Bloom's: Comprehension	TOP: Database Internet Connectivity	

83. What is JavaScript? How does it work?

**ANSWER:** JavaScript is a scripting language (one that enables the execution of a series of commands or macros) that allows web authors to design interactive sites. JavaScript code is embedded in the web page and executed after a specific event, such as a mouse click on an object or a page being loaded from the server into memory.

PTS: 1	DIF: Difficulty: Moderate	REF: p.697
NAT: BUSPROG: Analytic	STATE: DISC: Information Technology	
KEY: Bloom's: Comprehension	TOP: Database Internet Connectivity	

84. Explain the features provided by web application servers.

**ANSWER:** Web application servers provide features such as:

- An integrated development environment with session management and support for persistent application variables.
- Security and authentication of users through user IDs and passwords.
- Computational languages to represent and store business logic in the application server.
- Automatic generation of HTML pages integrated with Java, JavaScript, VBScript, ASP, and so on.
- Performance and fault-tolerant features.
- Database access with transaction management capabilities.
- Access to multiple services, such as file transfers (FTP), database connectivity, e-mail, and directory services.

PTS: 1	DIF: Difficulty: Moderate	REF: p.698
NAT: BUSPROG: Analytic	STATE: DISC: Information Technology	
KEY: Bloom's: Comprehension	TOP: Database Internet Connectivity	