Chapter 2—Enterprise Systems

TRUE/FALSE

1. One of the primary goals of implementing an ERP system is to standardize systems across multiple locations and multiple divisions.

   ANS: T

2. Communicating via separate databases is easier than communicating with an enterprise system.

   ANS: F

3. Enterprise systems result in more accurate forecasts resulting in reduced inventory and costs to redistribute inventory.

   ANS: T

4. The primary goal of installing an enterprise system is reducing system installation costs.

   ANS: F

5. Enterprise systems potentially integrate the business process functionality and information from all of an organization's functional areas.

   ANS: T

6. An enterprise system should cause the organization to conduct business in a more costly manner.

   ANS: F

7. An add-on software module in an enterprise system might be a customer relationship management system (CRM).

   ANS: T

8. The dominant player in the large system ERP arena is Microsoft.

   ANS: F

9. SAP has a primary focus on large Fortune 500 type companies.

   ANS: T

10. Microsoft Dynamics and Sage Group focus on small and mid market sized companies.

    ANS: T

11. Customer relationship management (CRM) software builds and maintains an organization's customer-related data.

    ANS: T

12. Customer relationship management (CRM) software aggregates, manages, and retains data across the entire organization for the identification, acquisition, and retention of vendors to maximize the benefits of those relationships.

    ANS: F

13. If you have made a Web purchase such as with Amazon.com you have experienced some of the functionality of a CRM system where the vendor keeps track of your name, address, and purchases.

    ANS: T

14. Customer relationship management (CRM) functionality includes procurement and contract management.

    ANS: F

15. Customer self service (CSS) software is often an extension of CRM software.

    ANS: T

16. Supply chain management (SCM) software helps plan and execute the steps such as demand planning, acquiring inventory, manufacturing, distributing, and selling the product.

    ANS: T

17. Supplier relationship management (SRM) software manages the interactions with the organization's that supply the goods and services to an enterprise.

    ANS: T

18. Middleware is a software product that connects two or more separate applications or software modules.

    ANS: T

19. Enterpriseware might be used to stitch together a number of legacy systems, an enterprise system, best-of-breed applications, and Web-based applications.

    ANS: F

20. An Application Programming Interface (API) is a means for connecting to a system or application provided by the developer of that application.

    ANS: T

21. Microsoft Dynamics Snap line of tools is an example of an Application Programming Interface.

    ANS: T

22. Enterprise application integration (EAI) is an approach to connecting multiple pieces of an enterprise system.

    ANS: T

23. Examples of enterprise application integration (EAI) include ERP and CRM.

    ANS: T

24. Enterprise Services Bus (ESB) is a type of communications-broker software that uses standardized protocols to let event-driven applications communicate in a less-expensive manner than can the tightly-coupled, synchronous enterprise application integration (EAI) platforms.

    ANS: T

25. DreamWeaver is a Web services platform from SAP that can be used to build applications that integrate business processes and databases from a number of sources within and between organizations.

    ANS: F

26. Business process management (BPM) provides a comprehensive method for integrating manual and automated internal processes, applications, and systems, as well as integration to external partners and services.

    ANS: T

27. Manual accounting systems include integration of business processes, applications, databases, and data standards such as EDI, and XML.

    ANS: F

28. Event driven architecture (EDA) is an approach to designing and building enterprise systems in which business events trigger messages to be sent by middleware between independent software modules that are completely unaware of each other.

    ANS: T

29. In event driven architecture (EDA) the business unit "pushes" the event to the recipient rather than waiting for the recipient to request or "pull", the event to them

    ANS: T

30. The value chain is a chain of activities performed by the organization to transform outputs into inputs valued by the customer.

    ANS: F

31. An organization creates a competitive advantage by creating less value for its customers than does its competition.

    ANS: F

32. Secondary activities of the value chain include activities directly involved with marketing, producing, selling, and delivering the product or service to the customer.

    ANS: F

33. Primary activities of the value chain provide support infrastructure such as procurement, information technology, human resources, and accounting.

    ANS: F

34. The value chain emphasizes the separate activities or *silos* of the organization.

    ANS: F

35. Dell's value chain takes raw materials, manufactures computers and other products, and delivers them to customers in a timely manner at an attractive price.

    ANS: T

36. The activities in the value chain, the value activities, are *business processes* that convert inputs to valued outputs.

    ANS: T

37. In a disaggregated information system, the customer will be notified immediately whether the item is on the shelf and not committed to another customer.

    ANS: F

38. Telling the customer when they will receive an item is known as *available to promise* (ATP).

    ANS: T

39. A character is a basic unit of data such as a letter, number, or special character.

    ANS: T

40. A field is a collection of related characters that comprise an attribute, such as a customer number or name.

    ANS: T

41. A record is a collection of related data fields pertaining to a particular entity or event.

    ANS: T

42. The credit limit within a customer record provides unlimited authorization for customer sales.

    ANS: F

43. Segregation of duties includes separating the sales and credit departments.

    ANS: T

44. Generally, when processing a customer order, one does not need to know the total price of the goods before credit authorization can be made.

    ANS: F

45. In an enterprise system, once a customer order is completed, the purchasing function would be immediately informed that the merchandise has been sold and may need to be replenished.

    ANS: T

46. A warehouse manager might want to have a list of all customers who have not made a purchase in the past month.

    ANS: F

47. A credit manager might want to compare customer credit limits, sales, billing data, and payment data to determine if credit limits need to be adjusted for customers with high sales or late payments.

    ANS: T

48. The correct sequence of the three steps in the sales and distribution process are (1) order entry (2) shipment process and (3) billing process.

    ANS: T

49. The correct sequence of the three steps in materials management is (1) record vendor invoice (2) create purchase order (3) receive the goods.

    ANS: F

50. The bottom line is that without integrated information systems organizations have difficulty being managed on a day-to-day basis and being successful in the long run.

    ANS: T

51. The financial accounting module integrates with sales/distribution, and materials management.

    ANS: T

52. The purchase to pay process includes the events surrounding the sale of goods to a customer, the recognition of revenue, and the collection of the customer payment

    ANS: F

53. The order to cash process includes events surrounding the purchase of goods from a vendor, the recognition of those costs, and the payment to the vendor.

    ANS: F

MULTIPLE CHOICE

1. Goals of ERP include all of the following except
   a. improved customer service
   b. improvements of legacy systems
   c. increased production
   d. reduced production time

   ANS: B

2. Core applications of an ERP are
   a. financial accounting
   b. procurement and logistics
   c. sales and distribution
   d. all of the above

   ANS: D

3. Which of the following is usually not part of an ERP's core applications?
   a. manual legacy systems
   b. product development
   c. purchasing
   d. sales and distribution applications

   ANS: A

4. The enterprise system might facilitate the purchase of office equipment by all of the following except
   a. providing an electronic order form (a purchase requisition)
   b. assisting the vendor with the selection of the appropriate purchase order
   c. routing the order to appropriate authorities for specific approval
   d. making the data available for management analysis

   ANS: B

5. The most dominant player in the ERP market for large companies is
   a. Oracle
   b. PeopleSoft
   c. SAP
   d. Microsoft

   ANS: C

6. Which statement about ERP installation is least accurate?
   a. For the ERP to be successful, process reengineering must occur.
   b. A problem with ERP is that some important business processes are not supported.
   c. When a business is diversified, little is gained from ERP installation.
   d. The phased-in approach is more suited to diversified businesses.

   ANS: C

7. Which statement is true?
   a. ERPs are infinitely scalable.
   b. Performance problems usually stem from technical problems, not business process reengineering.
   c. The better ERP can handle any problems an organization can have.
   d. ERP systems can be modified using add-on software.

   ANS: D

8. Software that builds and maintains an organization's customer-related data is known as
   a. customer relationship management (CRM) software
   b. customer self service (CSS) software
   c. sales force automation (SFA) software
   d. supply chain management (SCM) software

   ANS: A

9. Software that allows an organization's customers to complete inquiry without the aid of the organization's employees is known as
   a. customer relationship management (CRM) software
   b. customer self service (CSS) software
   c. sales force automation (SFA) software
   d. supply chain management (SCM) software

   ANS: B

10. Software that automates sales tasks such as order processing and tracking is known as
    a. customer relationship management (CRM) software
    b. customer self service (CSS) software
    c. sales force automation (SFA) software
    d. supply chain management (SCM) software

    ANS: C

11. Software that helps execute steps such as demand planning, acquiring inventory, manufacturing, distribution, and sales is known as
    a. customer relationship management (CRM) software
    b. customer self service (CSS) software
    c. supplier relationship management (SRM) software
    d. supply chain management (SCM) software

    ANS: D

12. Software that manages the interactions with the organization's that supply the goods and services to an enterprise is known as
    a. customer relationship management (CRM) software
    b. customer self service (CSS) software
    c. supplier relationship management (SRM) software
    d. supply chain management (SCM) software

    ANS: C

13. Software that manages the product, beginning with the design of the product, continuing through manufacture and culminating in the disposal of the product, is known as
    a. product lifecycle management (PLM) software
    b. product relationship management (PRM) software
    c. product self service (PSS) software
    d. supplier relationship management (SRM) software

    ANS: A

14. Supply chain management software

a. is typically under the control of external partners in the chain.
b. helps plan and execute the steps in an organization's supply chain, including demand planning; acquiring inventory; and manufacturing, distributing, and selling the product..
c. cannot be integrated into an overall ERP.
d. none of the above

ANS: B

15. Some third party modules can extract data from
a. legacy systems only
b. ERP systems only
c. both legacy systems and ERP systems
d. all of the above

ANS: D

16. Which of the following tracks a product from design, continuing through manufacture, and culminating with the disposal of the product at the end of its life?
a. the supply chain
b. the value chain
c. the product life cycle
d. none of the above

ANS: C

17. Technology that can connect together ERP systems and third party add-on modules is called
a. supply chain software
b. enterprise application integration (EAI)
c. EDP systems
d. none of the above

ANS: B

18. Enterprise application integration (EAI) can connect the information systems of multiple organizations together through data standards or platforms including
a. EDI
b. XML
c. NT or Unix
d. all of the above
ANS: D

19. In an event-driven architecture (EDA)
a. business events are handled as a batch of events
b. the business unit "pulls" the event to the recipient
c. business events are "pushed" immediately and simultaneously to all interested parties
d. none of the above

ANS: C

20. In an event-driven architecture (EDA)
    a. business events are processed in batches
    b. the enterprise operates in real time
    c. the enterprise only uses modules from a single software vendor
    d. none of the above

    ANS: B

21. In an event-driven architecture (EDA)
    a. each business event is handled individually
    b. real time processing reduces delays in business processing
    c. an event notification is sent to the middleware, also known as "publish and send"
    d. all of the above

    ANS: D

22. The general term for software that connects third-party modules to ERP systems is known as
    a. DreamWeaver
    b. Middleware
    c. Microsoft
    d. NetWeaver

    ANS: B

23. An approach to designing and building enterprise systems in which business events trigger messages to be sent by middleware between independent software modules that are completely unaware of each other.
    a. Application Programming Interface (API)
    b. Business Process Management (BPM)
    c. Enterprise Resource Planning (ERP)
    d. Event-driven architecture (EDA)

    ANS: D

24. This provides a comprehensive method for integrating manual and automated internal processes, applications, and systems, as well as integration to external partners and services.
    a. Application Programming Interface (API)
    b. Business Process Management (BPM)
    c. Enterprise Resource Planning (ERP)
    d. Event-driven architecture (EDA)

    ANS: B

25. Primary activities of the value chain include
    a. accounting
    b. human resources
    c. procurement
    d. production

    ANS: D

26. Secondary activities of the value chain include
    a. accounting
    b. marketing
    c. production
    d. sales

    ANS: A

27. Information technology (IT) has been able to create additional value by
    a. reducing costs
    b. improving quality
    c. balancing the cost and timeliness of manufacturing
    d. all of the above

    ANS: D

28. Which of the following statements is <u>false</u>?
    a. Value chain activities need to be closely coordinated.
    b. Primary value chain activities include marketing and sales.
    c. An organization's value chain is the only component of the value system.
    d. None of the statements are false.

    ANS: C

29. The correct sequence of elements leading to an "available to promise" (ATP) is
    a. item is not committed to another customer, item is on shelf, determine pricing, check customer credit limit
    b. item is on shelf, determine pricing, item is not committed to another customer, check customer credit limit
    c. item is on shelf, item is not committed to another customer, check customer credit limit, determine pricing
    d. item is on shelf, item is not committed to another customer, determine pricing, check customer credit limit

    ANS: D

30. The four Ws of capturing data do not include
    a. who
    b. what
    c. why
    d. when

    ANS: C

31. A basic unit of data such as a letter, number, or special character is known as a
    a. character
    b. field
    c. record
    d. none of the above

    ANS: A

32. A collection of related characters that comprise an attribute such as a customer number or name is known as a
    a. character
    b. field
    c. record
    d. none of the above

    ANS: B

33. A collection of related data fields pertaining to a particular entity or event is known as a(n)
    a. character
    b. field
    c. record
    d. none of the above

    ANS: C

34. The correct sequence of events for entering a customer order is
    a. edit order, record sales order, update inventory, notify warehouse
    b. record sales order, edit order, update inventory, notify warehouse
    c. notify warehouse, edit order, record sales order, update inventory
    d. edit order, notify warehouse, record sales order, update inventory

    ANS: A

35. The three steps in the sales and distribution process include all of the following except
    a. order entry
    b. shipment
    c. receiving
    d. billing

    ANS: C

36. The three steps in the materials management process include all of the following except
    a. creating the purchase order
    b. shipment
    c. receiving
    d. recording the vendor invoice

    ANS: B

37. The _____module plays a central role in the SAP system.
    a. human resources
    b. controlling and profitability analysis
    c. financial accounting
    d. customer relationship management

    ANS: C

38. The _____module of the SAP system handles internal accounting including cost center accounting, activity-based accounting, and budgeting.
    a. human resources
    b. controlling and profitability analysis
    c. financial accounting
    d. customer relationship management

    ANS: B

39. The _____module of the SAP system handles payroll processing.
    a. human resources
    b. controlling and profitability analysis
    c. financial accounting
    d. customer relationship management

    ANS: A

40. What is the first step in the order-to-cash process?
    a. sales order processing
    b. responding to customer inquiries
    c. pick and pack
    d. billing

    ANS: B

41. What is the correct sequence of the order-to-cash process?
    a. sales order processing; pick and pack; shipping; billing; payment; responding to customer inquiries
    b. sales order processing; responding to customer inquiries; pick and pack; shipping; billing; payment
    c. sales order processing; pick and pack; billing; shipping; payment; responding to customer inquiries
    d. responding to customer inquiries; sales order processing; pick and pack; shipping; billing; payment

    ANS: D

42. What is the first step in the purchase-to-pay process?
    a. purchase order processing
    b. pick and pack
    c. requirements determination
    d. goods receipt

    ANS: C

43. What is the correct sequence of the purchase-to-pay process?
    a. purchase order processing; goods receipt; invoice verification; payment processing; requirements determination
    b. requirements determination; purchase order processing; goods receipt; invoice verification; payment processing
    c. purchase order processing; requirements determination; goods receipt; invoice verification; payment processing
    d. purchase order processing; requirements determination; invoice verification goods receipt; payment processing

    ANS: B

COMPLETION

1. _____ integrate the business process functionality and information from all of an organization's functional areas, such as marketing and sales, cash receipts, purchasing, cash disbursements, human resources, production and logistics, and business reporting (including financial reporting)

   ANS: Enterprise systems

2. _____ are software packages that can be used for the core systems necessary to support enterprise systems.

   ANS: Enterprise resource planning (ERP) systems

3. _____ software builds and maintains an organization's customer-related database.

   ANS: Customer relationship management (CRM)

4. _____ software allows an organization's customers to complete an inquiry, perform a task (including sales), or troubleshoot problems, without the aid of an organization's employees.

   ANS: Customer self-service (CSS)

5. _____ software automates sales tasks such as order processing, contact management, inventory monitoring, order tracking, and employee performance evaluation.

   ANS: Sales force automation (SFA)

6. _____ software helps plan and execute the steps in an organization's supply chain including demand planning; acquiring inventory; and manufacturing, distributing, and selling the product.

   ANS: Supply chain management (SCM)

7. _____ software manages the interactions with the organization's that supply the goods and services to an enterprise.

   ANS: Supplier relationship management (SRM)

8. _____software manages product data during a product's life, beginning with the design of the product, continuing through manufacture, and culminating in the disposal of the product at the end of its life.

   ANS: Product life cycle management (PLM)

9. _____ is the dominant player in the ERP market for large businesses.

   ANS: SAP

10. _____ includes integration of business processes, applications, databases, and data standards such as EDI, and XML.

ANS: Enterprise application integration (EAI)

11. The _____ approach combines modules from various vendors to create an information system that better meets an organization's needs than a standard ERP system.

    ANS: best-of-breed

12. A(n) _____ is a means for connecting to a system or application provided by the developer of that application.

    ANS: Application Programming Interface (API)

13. _____ usually includes a design environment for modeling and documenting business processes. This is often integrated with the process engine to support iterative design and implementation efforts for maximum process agility

    ANS: Business process management (BPM)

14. _____ is an alternative approach to integration whereby loosely coupled applications react intelligently to changes in conditions and launch several responses rather than waiting to be called into action.

    ANS: Event-driven architecture (EDA)

15. _____ is communications-broker software that uses standardized protocols to let event-driven applications communicate in a less-expensive manner than can the tightly-coupled, synchronous EAI platforms.

    ANS: Enterprise Services Bus (ESB)

16. Primary activities of the _____ include activities directly involved with marketing, producing, selling, and delivering the product or service to the customer

    ANS: value chain

17. The _____ of the value chain include functions such as moving raw materials into and around the organization, producing and delivering goods to the customer, and performing services such as installation and after-sales support.

    ANS: primary activities

18. The _____ of the value chain are those that provide the supporting infrastructure to enable the primary activities and include functions such as procurement, information technology, human resources and accounting.

    ANS: secondary activities

19. Telling the customer when the item will be received is known as _____.

ANS: available to promise (ATP)

20. A _____ is a basic unit of data such as a letter, number, or special character.

ANS: character

21. A _____ is a collection of related characters that comprise an attribute, such as a customer number or name.

ANS: field

22. A _____ is a collection of related data fields pertaining to a particular entity or event.

ANS: record

23. The existence of the customer record, including the _____, provides the basic authorization required to accept and record the customer order.

ANS: credit limit

24. The _____ process includes the events surrounding the sale of goods to a customer, the recognition of revenue, and the collection of the customer payment.

ANS: order-to-cash

25. The _____ process includes events surrounding the purchase of goods from a vendor, the recognition of those costs, and the payment to the vendor

ANS: purchase-to-pay

26. _____ systems are the old information systems that are being replaced by the newer system.

ANS: Legacy

27. Business events are "pushed" immediately and simultaneously to all interested parties in _____ architecture

ANS: event driven

28. The four Ws of capturing data are _____, _____, _____, and _____.

ANS: who, what, where, when

29. Edit order, record sales order, update inventory, notify warehouse is the sequence of events for entering a _____.

ANS: customer order or sales order

30. The steps in the _____ process include creating the purchase order, receiving the goods and services, recording the vendor invoice

    ANS: materials management or purchase-to-pay

31. The module that handles internal accounting including cost center accounting, activity based accounting, and budgeting is _____.

    ANS: controlling and profitability analysis

32. The module that handles payroll processing is _____.

    ANS: human resources

33. The first step in the order-to-cash process is _____.

    ANS: presale activities or responding to customer inquiries

34. The first step in the purchase-to- pay process is _____.

    ANS: requirements determination

ESSAY

1. Define enterprise resource planning (ERP) systems and give some examples of common ERP add-on modules.

   ANS:
   Enterprise resource planning (ERP) systems are software packages that can be used for the core systems necessary to support enterprise systems. ERP products are designed to offer integration of virtually all of an organization's major business functions. Examples of common ERP add-on modules include customer relationship management (CRM) software; customer self-service (CSS) software; sales force automation (SFA) software; supply chain management (SCM) software; product lifecycle management (PLM) software; and supplier relationship management (SRM) software.

2. What are the primary activities of the value chain and what are some of the main functions included in the value chain?

   ANS:
   The primary activities of the value chain include are those directly involved with marketing, selling, and delivering the product or service. This includes functions such as moving raw materials, producing and delivering the products or services to the customer, performing services such as installation and after sales support.

3. List and describe the 6 steps in the order-to-cash process.

   ANS:
   1. Pre-sales activities including responding to customer requests and RFQs.
   2. Sales order processing which includes recording customer orders.
   3. Pick and pack which includes picking the goods from the shelf in the warehouse and packing the goods for shipment.

4. Shipping the goods to the customer which includes selecting the appropriate carrier, recording the reduction in inventory, recording cost of goods sold.
5. Billing which includes preparing the customer invoice, recording sales, and recording accounts receivable.
6. Payment which includes recording cash receipts, updating cash and accounts receivable.

4. List and describe the 5 steps in the purchase-to-pay process.

ANS:
1. Requirements determination which includes preparing the purchase requisition.
2. Purchase order processing which includes recording purchase orders. In an enterprise system where RFQs are used, it also includes analyzing vendor quotations.
3. Goods receipt which includes comparing the amount ordered to the amount received.
4. Invoice verification which includes receiving the invoice making a three way match of the purchase order, the receipt, and the vendor invoice and recording accounts payable.
5. Payment processing which includes preparing and recording cash disbursements and updating the cash and AP accounts.

5. Describe 5 of the pros of an enterprise system.

ANS:
The answer should include a description of any 5 of the following:

Single database

Integrated system

Process orientation (versus function orientation)

Standardization of business processes and data, easier to understand across the organization

Faster business processes

Timely information

Better financial management

One face to the customer

Reduced inventory

Improved cash management

Productivity improvement, reduced personnel

Full and accurate financial disclosures

Improved budgeting, forecasting, and decision support

Seamless integration and accessibility of information across the organization

Catalyst for reengineering old, inefficient business processes

6. Describe 3 of the cons of an enterprise system.

ANS:
The answer should include a description of any 3 of the following:

Centralized control versus decentralized empowerment

Inability to support traditional business processes that may be best practices for that organization

Loss of flexibility in rapidly adapting to desired new business processes in the post-implementation period

Increased complexity of maintaining security, control, and access permissions for specific information embedded in central database

The rigidity of "standardization" can impede creative thinking related to ongoing business process improvements

7. Lexington Company is considering taking customer's orders on their Web site.

   a. What information should Lexington collect from the customer during this process?

   b. What information would need to come from Lexington's system to complete the order?

   ANS:
   Part a: Lexington will need information on customer name, customer number, date, inventory item number, inventory item name, the amount ordered, customer address for billing and shipping, and contact information such as email address or telephone numbers. The Web system may also ask for information on any other items needed that is not currently requested with this order based on prior customer orders in the database. Companies such as Amazon.com may ask additional questions and suggest additional products that a customer may want based on prior purchasing patterns of that specific customer at Amazon.com.

   Part b: Lexington will need information on customer credit limit, sales order number, pricing information, inventory quantity on hand, where the inventory is located (which warehouse), if not in the warehouse, then when will the vendor deliver the inventory so it is in stock, a list of carriers for shipping, sales order number, date shipped, and invoice information for billing and collection.

8. Why might a firm decide to implement only certain modules in an ERP system rather than a complete implementation?

   ANS:
   The answer should include such items as:
   Cost considerations
   Implementing additional modules one at a time or on an as needed basis with additional modules added at a later time
   There may be legacy systems that they do not want to upgrade
   The firm may want to add on other modules from a combination of ERP vendors using enterprise application integration

9. Why must an organization expect the implementation of an ERP to disrupt operations?

   ANS:
   Successful implementation of an ERP requires that many business processes be reengineered. Once done, everything is different. If the organizational culture is not responsive to the changes, many problems can arise.

10. Describe and explain these concepts and their relationship to one another: enterprise application integration, middleware, application programming interface, event-driven architecture, enterprise services bus

ANS:
Enterprise application integration (EAI) is an approach to connecting together multiple pieces of an enterprise system and/or connecting the enterprise systems of different organizations. Middleware is a software product that connects two or more separate applications or software modules in this approach. An Application Programming Interface (API) is a type of middleware that is a means for connecting to a system or application provided by the developer of that application.

In contrast, event-driven architecture is an alternative approach to integration whereby loosely coupled applications react intelligently to changes in conditions and launch several responses rather than waiting to be called into action. Communications-broker software called Enterprise Services Bus (ESB) uses standardized protocols to let event-driven applications communicate in a less-expensive manner than can the tightly-coupled, synchronous EAI platforms.