

## Chapter 1—Introduction to Accounting Information Systems

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### TRUE/FALSE

1. The three themes of the text are operating systems, e-business, and internal control.

ANS: F                      PTS: 1

2. It is critical for accountants to understand enterprise resource planning (ERP) systems.

ANS: T                      PTS: 1

3. Information systems reliability and electronic commerce have been identified by the AICPA as potential assurance services.

ANS: T                      PTS: 1

4. E-business is the application of electronic networks to undertake business processes among the functional areas in an organization.

ANS: F                      PTS: 1

5. The role of the accountant has evolved to include non-financial information and information technology.

ANS: T                      PTS: 1

6. Enterprise systems integrate an organization's business processes and information from all of an organization's functional areas.

ANS: T                      PTS: 1

7. An information system consists of an integrated set of computer-based and manual components established to provide information to users.

ANS: T                      PTS: 1

8. Internal control is a process that provides complete assurance that the organization is meeting its objectives, such as efficiency and effectiveness of operations and reliable reporting.

ANS: F                      PTS: 1

9. The Sarbanes-Oxley Act of 2002 has dramatically changed the daily work of financial accountants and auditors.

ANS: T                      PTS: 1

10. According to the Sarbanes-Oxley Act of 2002, management must identify, document, and evaluate significant internal controls.

ANS: T                      PTS: 1

11. According to the Sarbanes-Oxley Act of 2002 and PCAOB Auditing Standard No. 5, management must audit and report on auditors' assertions about the organizations' systems of internal controls.  
ANS: F                      PTS: 1
12. According to the Sarbanes-Oxley Act's Section 409, material changes in the organization's financial condition must be disclosed to the public on a rapid and current basis.  
ANS: T                      PTS: 1
13. The Sarbanes-Oxley Act's Section 404 creates changes in both how companies document and evaluate internal control and how auditors audit and report on internal control.  
ANS: T                      PTS: 1
14. Sarbanes-Oxley Section 404 compliance is a major line of business for the biggest accounting firms.  
ANS: T                      PTS: 1
15. The Sarbanes Oxley Act of 2002 applies to publicly traded companies and not-for-profit entities.  
ANS: F                      PTS: 1
16. Historically the purpose of an accounting information system is to collect, process, and report financial aspects of business events.  
ANS: T                      PTS: 1
17. The MIS is a subsystem of the AIS.  
ANS: F                      PTS: 1
18. Sales/marketing information system is traditionally part of the AIS.  
ANS: F                      PTS: 1
19. Billing/accounts receivable is traditionally part of the AIS.  
ANS: T                      PTS: 1
20. Production and personnel are part of the operations process.  
ANS: T                      PTS: 1
21. The management process includes marketing and sales.  
ANS: F                      PTS: 1
22. Information that is capable of making a difference in a decision-making situation, by reducing uncertainty or increasing knowledge for that particular decision, has the quality of relevance.  
ANS: T                      PTS: 1

23. Information about a customer's credit history that is received after the decision to grant additional credit lacks completeness.
- ANS: F                      PTS: 1
24. The consistency principle is violated when a firm uses straight-line depreciation one year and changes to declining balance depreciation the next year.
- ANS: T                      PTS: 1
25. Accuracy is the correspondence or agreement between the information and the actual events or objects that the information represents.
- ANS: T                      PTS: 1
26. Information has understandability when it is capable of making a difference in a decision-making situation..
- ANS: F                      PTS: 1
27. The most important information for tactical management involves information about the organization's environment.
- ANS: F                      PTS: 1
28. Deciding how much credit to grant to a customer is a structured decision.
- ANS: T                      PTS: 1
29. Strategic management requires more detailed information than operations management.
- ANS: F                      PTS: 1
30. The three steps in decision making take place in the sequence of (1) intelligence (2) design (3) choice.
- ANS: T                      PTS: 1
31. Strategic managers use more information from outside the organization than do operations managers.
- ANS: T                      PTS: 1
32. Operations management requires information that is more accurate and timely than strategic management.
- ANS: T                      PTS: 1
33. What controls will be necessary is a question that an accountant answers in the design of the AIS.
- ANS: T                      PTS: 1
34. As a designer of an AIS the accountant will test a new system's controls.
- ANS: F                      PTS: 1

35. As a user of an AIS an accountant may be called upon to participate in the AIS design process.

ANS: T                      PTS: 1

### MULTIPLE CHOICE

1. The three themes of the text book include all of the following except:
- enterprise systems
  - risk assessment
  - e-business
  - internal control

ANS: B                      PTS: 1

2. Efficiency and effectiveness of operations are goals of:
- enterprise systems
  - risk assessment
  - e-business
  - internal control

ANS: D                      PTS: 1

3. A set of interdependent elements that together accomplish specific objectives is a
- system
  - subsystem
  - database
  - accounting information system

ANS: A                      PTS: 1

4. A system can be further divided into
- input data
  - subsystems
  - databases
  - enterprise systems

ANS: B                      PTS: 1

5. A system that consists of an integrated set of computer-based and manual components established to collect, store, and manage data and to provide output information to users is a(n)
- output
  - ERP
  - database
  - information system

ANS: D                      PTS: 1

6. An information system:
- is composed of only the computer-based information resources of an organization
  - may consist of both computer-based and manual components
  - is different from a data processing system because it uses computers
  - is not generally used for transaction processing

ANS: B                      PTS: 1

7. The AICPA has identified all but which of the following as assurance services?
- consulting
  - information systems reliability
  - electronic commerce
  - All of these are assurance services identified by the AICPA.

ANS: A                      PTS: 1

8. The sequence of components in the functional model of an information system is
- Output, Input, Processing, Users
  - Input, Processing, Output, Users
  - Processing, Input, Users, Output
  - Users, Processing, Input, Output

ANS: B                      PTS: 1

9. Historically, the relationship between an information system and an accounting information system has been:
- the AIS is a part of the IS
  - the IS is a part of the AIS
  - the IS and the AIS are one in the same
  - the IS and AIS are unrelated

ANS: A                      PTS: 1

10. The text takes the following view of the relationship between an IS and an AIS:
- the AIS is part of the IS
  - the IS is part of the AIS
  - the IS and the AIS are one in the same
  - the AIS is the primary system and the IS the subsystem

ANS: C                      PTS: 1

11. A man-made system that generally consists of an integrated set of computer-based components and manual components established to collect, store, and manage data and to provide output information to users.
- information system
  - output system
  - business event system
  - database system

ANS: A                      PTS: 1

12. According to the \_\_\_\_, one of the responsibilities of accountants is to assess financial operations and make best-practices recommendations to management.
- AICPA
  - Sarbanes-Oxley Act of 2002
  - Occupational Outlook Handbook
  - Accounting Information System

ANS: C                      PTS: 1

13. A man-made system consisting of people, equipment, organization, policies and procedures with the objective of accomplishing the work of the organization.
- operations process
  - management process

- c. information process
- d. planning process

ANS: A                      PTS: 1

14. A man-made system consisting of people, authority, organization, policies and procedures whose objective is to accomplish the work of planning and controlling the operations of the organization.
- a. operations process
  - b. management process
  - c. information process
  - d. planning process

ANS: B                      PTS: 1

15. The three logical components of a business process include all of the following except:
- a. management process
  - b. operations process
  - c. information process
  - d. organization process

ANS: D                      PTS: 1

16. Which of the following statements is true?
- a. The information process facilitates operations by maintaining data such as inventory and customer data.
  - b. The information process provides the means by which management monitors the operations process.
  - c. Management designs the operations and information processes.
  - d. All of the statements are true.

ANS: D                      PTS: 1

17. Which of the following statements is false?
- a. Management designs the operations and information processes and establishes these processes with people, equipment, and policies.
  - b. Information process users include operations personnel, management, and people outside the organization.
  - c. Operations related and accounting related processes are designed by those external to the organization.
  - d. None of the statements are false.

ANS: C                      PTS: 1

18. \_\_\_\_ is (are) data presented in a form that is useful to decision makers.
- a. Activities
  - b. Information
  - c. Objectives
  - d. Goals

ANS: B                      PTS: 1

19. \_\_\_\_ are facts and figures in raw form.
- a. Data
  - b. Information
  - c. Objectives
  - d. Goals

ANS: A                    PTS: 1

20. All of the following are components of relevance except:
- a. feedback value
  - b. predictive value
  - c. verifiability
  - d. timeliness

ANS: C                    PTS: 1

21. All of the following are components of reliability except:
- a. validity
  - b. accuracy
  - c. verifiability
  - d. feedback value

ANS: D                    PTS: 1

22. The Sarbanes-Oxley Act of 2002 dramatically changed the daily work of financial accountants and auditors because it
- a. expanded the scope of the audit beyond financial information
  - b. required that organizations work with their auditors to design systems of internal control
  - c. required that external auditors report on the effectiveness of an organizations system of internal control
  - d. expanded the opportunities for auditors to engage in consulting activities with their audit clients

ANS: C                    PTS: 1

23. Internal control is a process designed to provide absolute assurance regarding achieving objectives in which of the following?
- a. efficiency and effectiveness of operations
  - b. reliability of reporting
  - c. compliance with applicable laws and regulations
  - d. none of the above

ANS: D                    PTS: 1

24. Which of the following is NOT a business processes element?
- a. Business operations
  - b. Events processing
  - c. Management decision making
  - d. Technology

ANS: D                    PTS: 1

25. \_\_\_\_ improves the decision maker's capacity to predict, confirm, or correct earlier expectations
- a. Understandability
  - b. Feedback value
  - c. Neutrality
  - d. Comparability

ANS: B                    PTS: 1

26. The information quality that enables users to identify similarities and differences in two pieces of information is
- Understandability
  - Predictive value
  - Neutrality
  - Comparability

ANS: D                      PTS: 1

27. The correspondence or agreement between the information and the actual events or objects that the information represents is known as
- accuracy
  - completeness
  - neutrality
  - comparability

ANS: A                      PTS: 1

28. The degree to which information includes data about every relevant object or event necessary to make a decision is
- accuracy
  - completeness
  - neutrality
  - comparability

ANS: B                      PTS: 1

29. The ability of more than one individual to come to the same measurement is known as
- accuracy
  - completeness
  - verifiability
  - comparability

ANS: C                      PTS: 1

30. If information arrives too late to impact a decision then there is a problem with
- timeliness
  - relevance
  - completeness
  - neutrality

ANS: A                      PTS: 1

31. Which of the following is NOT one of the three steps in decision making as described in the text
- action
  - intelligence
  - design
  - choice

ANS: A                      PTS: 1

32. Regarding management problem structure and information requirements, which of the following represents the vertical information flows from lowest to highest?
- strategic management, tactical management, operations management, operations and business event processing
  - operations and business event processing, strategic management, tactical management,



- operations management
- c. tactical management, operations management, strategic management, operations and business event processing
- d. operations and business event processing, operations management, tactical management, strategic management

ANS: D                      PTS: 1

33. Structured decision
- a. are usually tactical management decisions
  - b. require the use of an organization's AIS system.
  - c. are relatively routine and repetitive
  - d. All of the above

ANS: C                      PTS: 1

34. Which of the following is an unstructured decision?
- a. how much inventory to reorder
  - b. how fast an assembly line should operate
  - c. when scheduled maintenance should be performed
  - d. which research and development projects should be undertaken

ANS: D                      PTS: 1

35. At which level of the organization are decisions most unstructured?
- a. operations and business event processing level
  - b. strategic management level
  - c. operations management level
  - d. tactical management level

ANS: B                      PTS: 1

36. \_\_\_\_ requires information to assess the environment and to project future events and conditions.
- a. Strategic management
  - b. Tactical management
  - c. Operations management
  - d. Operations and business event processing

ANS: A                      PTS: 1

37. The \_\_\_\_ manager may be more concerned with accuracy than with timeliness.
- a. strategic
  - b. tactical
  - c. operations
  - d. All of the above.

ANS: A                      PTS: 1

38. The central repository for all the data related to the enterprise's business activities and resources.
- a. information system
  - b. management information system
  - c. enterprise database
  - d. strategic planning

ANS: C                      PTS: 1

39. E-business does not include
- business processes between individuals and organizations
  - electronic networks
  - ERP systems
  - interaction between back-office and front-office processes

ANS: C                    PTS: 1

40. Enterprise systems
- integrate back-office and front-office processes
  - can include ERP systems
  - have become fairly easy to implement
  - facilitate business processes between organizations

ANS: B                    PTS: 1

41. Which of the following statements is false?
- Strategic planning is relatively unstructured.
  - Strategic planning uses much information from outside the firm.
  - Tactical management focuses on relevant operations units and uses some external information.
  - Tactical management uses the most detailed and accurate information.

ANS: D                    PTS: 1

42. Generally, which of the following is NOT one of the three roles an accountant typically fills in relation to the AIS?
- designer
  - programmer
  - user
  - auditor

ANS: B                    PTS: 1

43. Which of the following questions might the accountant answer in the design of the AIS?
- what will be recorded
  - what controls are necessary
  - what reports will be produced
  - all of the above

ANS: D                    PTS: 1

44. Which of the following is an element of the operations process?
- production
  - planning
  - controlling
  - decision making

ANS: A                    PTS: 1

45. Which of the following is one of the three most prominent management activities?
- production
  - finance
  - marketing
  - planning

ANS: D                    PTS: 1

46. Accounting is an activity of the
- management process
  - operations process
  - information process
  - organization process

ANS: B                    PTS: 1

47. Decision-making is an activity of the
- management process
  - operations process
  - information process
  - organization process

ANS: A                    PTS: 1

### COMPLETION

1. \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ are the three themes of the textbook.

ANS:

Enterprise systems, e-business, internal control  
Enterprise systems, internal control, e-business  
Internal control, enterprise systems, e-business  
Internal control, e-business, enterprise systems  
E-business, enterprise systems, internal control  
E-business, internal control, enterprise systems

PTS: 1

2. The \_\_\_\_\_ Act of 2002 changed the daily work of financial accountants, auditors, and others.

ANS: Sarbanes-Oxley

PTS: 1

3. A(n) \_\_\_\_\_ is a set of independent elements that together accomplish specific objectives.

ANS: system

PTS: 1

4. A system's \_\_\_\_\_ depends on its type – natural, biological, or man-made – and on the particular system.

ANS: central objectives

PTS: 1

5. Software packages that can be used for the core systems necessary to support enterprise systems are called \_\_\_\_\_.

ANS:

enterprise resource planning (ERP) systems  
enterprise resource planning systems  
ERP systems

PTS: 1

6. \_\_\_\_\_ is the application of electronic networks (including the Internet) to undertake business processes between individuals and organizations.

ANS: E-business

PTS: 1

7. \_\_\_\_\_ is a process—effected by an entity's board of directors, management, and other personnel—designed to provide reasonable assurance regarding achieving objectives in the following categories: efficiency and effectiveness of operations, reliability of reporting, and compliance with applicable laws and regulations.

ANS: Internal control

PTS: 1

8. The \_\_\_\_\_ units of large and small public accounting firms have accounted for a significant percentage of the firms' business and were growing faster than the accounting, auditing, and tax portions of their businesses.

ANS: business consulting

PTS: 1

9. Hiring employees, purchasing inventory and collecting cash from customers are all components of \_\_\_\_\_.

ANS: business operations

PTS: 1

10. The three logical components of a business process are the \_\_\_\_\_ process, the \_\_\_\_\_ process and the \_\_\_\_\_ process.

ANS:

management, operations, information  
management, information, operations  
information, management, operations  
information, operations, management  
operations, information, management  
operations, management, information,

PTS: 1

11. Historically, the accountant has performed a(n) \_\_\_\_\_ function to determine the reliability of financial information presented in printed financial statements.

ANS: attest

PTS: 1

12. A(n) \_\_\_\_\_ system generally consists of both computerized and manual components established to collect, store, and manage data and to provide output information to users.

ANS:  
information  
management information

PTS: 1

13. The \_\_\_\_\_ is a man-made system consisting of the people, equipment, organization, policies, and procedures whose objective is to accomplish the work of the organization.

ANS: operations process

PTS: 1

14. To present the results of their endeavors effectively, accountants must possess strong \_\_\_\_\_.

ANS: oral and written communication skills

PTS: 1

15. \_\_\_\_\_ decisions are those for which all three decision phases (intelligence, design, and choice) are relatively routine or repetitive.

ANS: Structured

PTS: 1

16. A(n) \_\_\_\_\_ is designed to collect, process, and report information related to financial transactions.

ANS:  
accounting information system (AIS)  
accounting information system  
AIS

PTS: 1

17. Input, processing, \_\_\_\_\_, and users are included in a functional model of an information system.

ANS: output

PTS: 1

18. The highest level of management activity and the one with the broadest scope is \_\_\_\_\_ management.

ANS: strategic

PTS: 1

19. In the management hierarchy, the level that lies between strategic management and operations management is called \_\_\_\_\_ management.

ANS: tactical

PTS: 1

20. Facts or figures in raw form are referred to as \_\_\_\_\_.

ANS: data

PTS: 1

21. \_\_\_\_\_ is an information quality that can be expanded into validity, accuracy, and completeness..

ANS: Integrity

PTS: 1

22. The \_\_\_\_\_ of information must be evaluated in relation to the purpose to be served (decision making).

ANS: effectiveness

PTS: 1

23. Information that is capable of making a difference in a decision of a user is said to possess the quality of \_\_\_\_\_.

ANS: relevance

PTS: 1

24. Information that is available before it loses its capacity to influence a user's decision possesses the quality of \_\_\_\_\_.

ANS: timeliness

PTS: 1

25. Information that improves a decision makers ability to predict, confirm, or correct earlier expectations has the quality known as \_\_\_\_\_.

ANS:  
feedback value

predictive value

PTS: 1

26. The quality of information when there is a high degree of consensus about the information among independent measurers using the same measurement methods is referred to as

\_\_\_\_\_.

ANS: verifiability

PTS: 1

27. Information that is objective is said to possess \_\_\_\_\_.

ANS:

neutrality

freedom from bias

PTS: 1

28. The quality of information that enables users to identify similarities and differences in two pieces of information is referred to as \_\_\_\_\_.

ANS: comparability

PTS: 1

29. A \_\_\_\_\_ is a tool designed to help you analyze a situation and relate processes to desired results.

ANS: matrix

PTS: 1

30. Section \_\_\_\_\_ of the Sarbanes-Oxley Act of 2002 requires auditors to report on about the effectiveness of the organizations' systems of internal control.

ANS: 404

PTS: 1

31. Section \_\_\_\_\_ of the Sarbanes-Oxley Act of 2002 requires management to identify, document and evaluate significant internal controls.

ANS: 404

PTS: 1

32. Section \_\_\_\_\_ of the Sarbanes-Oxley Act of 2002 requires disclosure to the public on a rapid and current basis of material changes in an organization's financial condition.

ANS: 409

PTS: 1

33. The \_\_\_\_\_ is a man-made system consisting of the people, authority, organization, policies, and procedures whose objective is to plan and control the operations of the organization

ANS: management process

PTS: 1

34. \_\_\_\_\_ is data presented in a form that is useful in a decision-making activity.

ANS: Information

PTS: 1

35. Information about actual authorized events and objects has \_\_\_\_\_.

ANS: validity

PTS: 1

36. \_\_\_\_\_ is the correspondence or agreement between the information and the actual events or objects that the information represents.

ANS: Accuracy

PTS: 1

37. \_\_\_\_\_ is the degree to which information includes data about every relevant object or event necessary to make a decision and includes that information only once.

ANS: completeness

PTS: 1

## ESSAY

1. Describe the activities performed and information used by each of the following levels in the management structure:
  - a. Strategic management
  - b. Tactical management
  - c. Operations management

ANS:

Suggested answer:

- a. Strategic management requires information to assess the environment and to project future events and conditions. Such information is even more summarized, broader in scope, and comes from outside the organization more than does the information used by tactical management. To be useful to division managers, chief financial officers (CFOs), and chief executive officers (CEOs), information must relate to longer time periods, be sufficiently broad in scope, and be summarized to provide a means for judging the long-term effectiveness of management policies. External financial statements, annual sales reports, and division income statements are but a few examples of strategic-level



information.

- b. Tactical management requires information that focuses on relevant operational units and is more summarized, broader in scope, and need not be as accurate as the information used by operations management. Some external information may be required. For example, a warehousing and distribution manager might want information about the timeliness of shipments each month.
- c. Information useful to operations management personnel is often an aggregate of data related to several business events. For example, a report summarizing shipments made each day might be useful to the shipping manager. At the operations management level, supervisors use this type of information to monitor the daily functioning of their operating units. The vertical information useful to operations management is a summarized and tailored version of the information that flows horizontally.

PTS: 1

2. Describe the three roles that an accountant can play in the AIS?

ANS:

The three roles the accountant can play in the AIS are designer, user and auditor.

The accountant is a designer of the AIS who brings knowledge of accounting principles, auditing principles, information systems techniques, and systems development methods.

The accountant is also a user of the AIS and will provide feedback on how well the system works, how easy or difficult it is to use, and on what items can be changed or improved from a user perspective. The accountant performs a number of functions within the organization such as controller, treasurer, financial analyst, all of which are users of the AIS. Accountants, as users of the system can also be effective in the design process because of the functions they perform.

As internal and external auditors, accountants audit the AIS or provide assurance services about internal control or other items discussed in the chapter. Auditors are interested in the reliability of accounting data and of the reports produced by the system. They may test the system's controls, assess the system's efficiency and effectiveness, and participate in the system design process. The auditor must possess knowledge of internal controls, systems development techniques, technology and the design and operation of the AIS to be effective.

PTS: 1

3. Discuss five of the ten items that comprise the components of the study of AIS in this text.

ANS:

The 10 components of the study of AIS are depicted in Figure 1.1. A detailed description of these components may be found in the chapter. Here is a brief summary of the detailed descriptions:

- **Technology.** Technological developments have a profound effect on information systems; enterprise systems, ERP systems, e-business, databases, and intelligent systems are but a few examples. Technology provides the foundation on which AIS and business operations rest, and knowledge of technology is critically important to your understanding of the AIS discipline.
- **Databases.** To perform analysis, to prepare information for management decision making, and to audit a firm's financial records, an accountant must be able to access and use data from public and private databases.

- **Reporting.** To design reports generated by an information system, the accountant must know what outputs are required or are desirable. These reports often support management decisions as well as fulfill certain reporting obligations. GAAP-based financial statements are but one example of reporting that will be considered in our study of AIS.
- **Control.** Traditionally, accountants have been experts on controlling business processes. As a practicing accountant, you will probably spend much of your time providing such expertise. You must develop an understanding of control that is specific to the situation at hand, yet is adaptable for the future.
- **Business operations.** Organizations engage in activities or operations, such as hiring employees, purchasing inventory, and collecting cash from customers. AIS operates in concert with these business operations. Many AIS inputs are prepared by operating departments—the *action* or *work* centers of the organization—and many AIS outputs are used to manage these operations. Therefore, we must analyze and manage an AIS in light of the work being performed by the organization.
- **Events processing.** As organizations undertake their business operations, events, such as sales and purchases, occur. Data about these events must be captured and recorded to mirror and monitor the business operations. The events have operational and AIS aspects (i.e., some do not have a direct accounting impact, and some are accounting "transactions" that result in entries in the general ledger). To design and use the AIS, an accountant must know what event data are processed and how they are processed.
- **Management decision making.** The information used for a decision must be tailored to the type of decision under consideration. Furthermore, the information is more useful if it recognizes the personal management styles and preferences of the decision maker.
- **Systems development and operation.** The information systems that process business events and provide information for management decision making must be designed, implemented, and effectively operated. An accountant often participates in systems development projects as a user or business process owner contributing requests for certain functions or an auditor advancing controls for the new system. Choosing the data for a report, designing that report, and configuring an enterprise system are examples of systems development tasks that can be accomplished by an accountant.
- **Communications.** To present the results of their endeavors effectively, accountants must possess strong oral and written communication skills. Throughout this course, you will be required to evaluate alternatives, to choose a solution, and to defend your choice. Technical knowledge alone won't be enough for the last task.
- **Accounting and auditing principles.** To design and operate the accounting system, an accountant must know the proper accounting procedures and must understand the audits to which the accounting information will be subjected.

PTS: 1