

# **CIA**

## **Preparatory Program**

### **Part 3**

## **Business Knowledge for Internal Auditing**

### **Mock Exam**



### 100 Multiple Choice Questions

**Time: 2 Hours (120 Minutes)**

Select a **single** answer that **best** completes the statement or answers the question.

1. Which of the following statements about strategic planning is/are correct?
  - I. It is concerned with quantifiable and qualitative matters.
  - II. It is mainly undertaken by middle management in an organization.
  - III. It is concerned predominantly with the short-term.
  - IV. It is primarily a top-down process.
  - a. I, II, and III only.
  - b. I and III only.
  - c. I and IV only.
  - d. I, II, III and IV.
2. Which of the following is **not** a step in the strategic planning process?
  - a. Defining the company's mission.
  - b. Analyzing the company's internal and external environments.
  - c. Identifying the company's resources for dealing with external threats.
  - d. Developing and implementing strategies.
3. Management selects a set of strategies that creates and sustains competitive advantage. If the corporate-level strategy is to increase market share, all of the following would be an example of a business-level strategy **except**:
  - a. Rebranding.
  - b. Redesigning the product to make it cheaper to produce.
  - c. Improving quality.
  - d. Increasing the marketing budget.
4. Which of the following does **not** lead to successful strategic planning?
  - a. There is support of the plan across a narrow set of stakeholders.
  - b. There is a clear understanding of the organization's capacity and resources.
  - c. A bottom-up and top-down communication approach is taken.
  - d. There is engagement of all levels of staff throughout the organization.

5. Oil Trade Service is a company that services the oil & gas industry. For the month of May, Oil Trade had the following financial information:

Sales	\$750,000
Operating income	25,000
Profit before taxes	15,000
Total assets employed	500,000
Shareholder equity	200,000
Cost of capital	6%
Marginal tax rate	20%

Oil Trade Service has a:

- a. Residual Income of \$8,000.
  - b. Return on Investment of 5%.
  - c. Residual income of \$(15,000).
  - d. Return on Investment of 3%.
6. Which of the following would not be considered a distinctive competency that leads to competitive advantage?
- a. The company's production costs are 10% lower than the next-largest competitor.
  - b. The company pays its employees, on average, 10% more than competitors.
  - c. The company increased its R&D budget by 10% to develop 3 new products.
  - d. The company lowered customer delivery time by 10%.
7. The balanced scorecard is a method to manage strategic performance that provides a framework for performance measurements and helps management identify what needs to be done and how its activities can be measured. Which of the following would **not** correspond to a balanced scorecard goal?
- a. Increasing sales revenue.
  - b. Reducing the percentage of customer complaints.
  - c. Reducing the time between taking an order and the customer receiving a quote.
  - d. Increasing the amount of staff.
8. Which of the following is a characteristic of total quality management (TQM)?
- a. Management by objectives.
  - b. On-the-job training by other workers.
  - c. Quality by final inspection.
  - d. Education and self-improvement.
9. The costs of quality that are incurred in detecting units of product that do not conform to product specifications are referred to as:
- a. Preventive costs.
  - b. Appraisal costs.
  - c. Rework costs.
  - d. Failure costs.

10. The internal auditor of Z-lazy-L Corporation found the following quality costs.

Equipment maintenance costs	\$5,000
Warranty costs	\$550
Quality training costs	\$800
Cost of quality audits	\$2,000
Cost of spoilage and scrap	\$400
Machine repairs due to breakdowns	\$1,200

Z-lazy-L's total conformance costs are how much?

- a. \$9,200
  - b. \$5,800
  - c. \$8,200
  - d. \$7,800
11. You have worked as a senior internal audit manager for a number of years at a large multinational corporation. You believe the salary you receive is fairly generous and the company has established a bonus program for its internal audit staff that compares favorably with other department's bonus programs. Because you are a senior manager, you have had the opportunity for foreign business travel, which you consider an added bonus for the position. Based on Maslow's hierarchy of needs, what level of needs has the senior internal auditor manager satisfied?
- a. Security and Safety needs.
  - b. Social needs.
  - c. Esteem.
  - d. Self-actualization.
12. According to McClelland's Theory of Needs, a good senior executive will have:
- a. A need for power.
  - b. A need for achievement.
  - c. A need for approval from others.
  - d. A concern for the feelings of others.
13. Which of the following job design techniques is a vertical job restructuring model?
- a. Job enlargement.
  - b. Job enrichment.
  - c. Job rotation.
  - d. Job specialization.
14. There are numerous factors that enhance or detract from a group's attractiveness and cohesiveness. Select the factor that **would not** enhance attractiveness and cohesiveness:
- a. Favorable view from the outside-looking-in.
  - b. The similarity of the members.
  - c. A common threat in the environment.
  - d. Moderately large size.

- 15.** The film director is the team leader of his film production team. During filming, the sound manager noticed some distortion or noise in the recording process. The sound manager made the decision to stop the production until the distortion was removed. This is an example of what type of team?
- An action-learning team.
  - A formal team.
  - A cross-functional team.
  - A problem-solving team.
- 16.** Some managers believe that decentralizing the organization could significantly improve employee motivation and morale. Other advantages of decentralization include:
- Decentralized organizations are easier to control.
  - Decentralized organizations can make operational decisions more quickly.
  - Decentralized organizations encourage increased initiative among employees.
  - Decentralized organizations have fewer managers than centralized organizations.
- I and II only.
  - II and III only.
  - III and IV only.
  - I and IV only.
- 17.** The following principles characterize certain organizational structures:
- A superior can delegate the authority to make decisions but cannot delegate the ultimate responsibility for the results of those decisions.
  - A supervisor's span of control should not exceed seven subordinates.
  - Responsibility should be accompanied by adequate authority.
  - Employees at all levels should be empowered to make decisions.
- Which of these principles are shared by both hierarchical and open organizational structures?
- I and III only.
  - I and IV only.
  - II and III only.
  - III and IV only.
- 18.** The relationship between organizational structure and technology suggests that if an organization is in a highly competitive and complex environment (for example, computer software programming), the best structure is:
- Organic, which has low complexity, a low amount of formalization, and a highly participative decision-making structure.
  - Matrix, in which individuals report to both product and functional area managers.
  - Mechanistic, which has high formalization and tight controls.
  - Integrated, emphasizing cooperation among departments.

- 19.** A general rule is that an organization's structure becomes more complex as it increases its employee count. Rules become more formalized and more supervisors are hired to direct the increased number of subordinates. What is the nature of the size-structure relationship?
- a. The size-structure relationship is linear.
  - b. The structure becomes fixed once an organization attains a level of about 200 employees.
  - c. The size-structure relationship is concave.
  - d. None of the above.
- 20.** According to Henry Mintzberg, an organization has five components: Operating core, Strategic apex, Middle line, Technostructure, and Support staff. Mintzberg additionally identified six types of organizations, each of which configures the five standard components in a different way. Which of the following best describes a professional bureaucracy structure?
- a. The structure is more decentralized where highly trained production specialists have great autonomy.
  - b. The structure is complex, formal, and centralized, and adheres to the unity-of-command concept.
  - c. The structure has low complexity and authority is centralized.
  - d. The structure is complex, formal, and one that performs highly routine tasks.
- 21.** Departmentation may be performed by:
- I. Function
  - II. Territory
  - III. Product
  - IV. Ecology
- a. I and II only.
  - b. I, II and III only.
  - c. II, III, and IV only.
  - d. I, II, III and IV.
- 22.** All of the following are advantages of functional departmentation **except**:
- a. Efficiency.
  - b. Evaluation of the performance of functional specialists.
  - c. A high degree of differentiation within a department.
  - d. Better communication within given departments.
- 23.** In organizations where new product groups are often created, a structure that combines functional and product departmentalization to create dual lines of authority would be optimal. The **best** structure for this organization would be:
- a. Professional bureaucracy.
  - b. Mechanistic.
  - c. Matrix.
  - d. Machine bureaucracy.

24. Low standardization of procedures and encouraging innovation characterize which of the following?
- a. Divisional structure.
  - b. Adhocracy.
  - c. Machine bureaucracy.
  - d. Professional bureaucracy.
25. Which of the following would **not** affect a company's span of control?
- a. The size of the organization.
  - b. The manager's available time to supervise employees.
  - c. The communication skills of the manager.
  - d. The standardization of tasks to be performed.
26. The information gathered through the findings of job analysis is called:
- a. Job design.
  - b. Job specification.
  - c. Job description.
  - d. Job evaluation.
27. Employee development for newly-hired internal auditors can be accomplished in all of the following ways **except**:
- a. Offering time off for learning.
  - b. Communicating the company's goals and long-term strategies.
  - c. Offering tuition reimbursement.
  - d. Having them be mentors to other auditors.
28. The goal of the purchasing cycle is to make sure that only authorized orders are received and inventoried. Which of the following functions within the purchasing cycle is **not** correct?
- a. The procurement manager should review the purchase requisition and approve (or reject) the purchase of goods.
  - b. Custody of the goods lies with the procurement department.
  - c. An accounts payable clerk records the transaction to the accounts payable journal.
  - d. An accounting clerk records the transaction to the general ledger.
29. An internal auditor was reviewing controls over the sales department. The sales department is responsible for receiving customer orders and checking to see if it has the inventory in stock. All of the following are examples of risks in the sales department **except**:
- a. An invalid or fictitious customer order is received and processed.
  - b. Credit is approved by credit personnel that exceeds a customer's credit limit, leading to excessive bad debts.
  - c. Unauthorized rates or prices are misquoted to customers.
  - d. The sales department frequently receives cash payments from customers.

**30.** Which of the following outsourcing scenarios is the **most likely**?

- a. An Internet company outsources its IT functions.
- b. A pharmaceutical company outsources its R&D.
- c. A manufacturing company outsources its payroll function.
- d. A manufacturing company outsources its product development function.

**Use the following information to answer questions 31 and 32.**

The following information applies to an organization's project. The numbers in the table are the expected times (in days) to perform each activity in the project.

Activity	Time (days)	Immediate Predecessor
AB	6	None
AC	5	None
BE	6	AB
CD	2	AC
CE	5	AC
DF	6	CD
EF	2	CE

**31.** The expected time to complete the project is

- a. 13 days.
- b. 11 days.
- c. 14 days.
- d. 18 days.

**32.** The process of adding resources to shorten selected activity times on the critical path in project scheduling is called

- a. Crashing.
- b. The Delphi technique.
- c. ABC analysis.
- d. A branch-and-bound solution.

**33.** A Gantt chart:

- a. Shows the critical path for a project.
- b. Is used for determining an optimal product mix.
- c. Shows only the activities along the critical path of a network.
- d. Does not necessarily show the critical path through a network.



- 34.** Which of the following is **not** a primary element for a contract to be considered valid?
- a. There must be an offer.
  - b. The contract must be accepted by the other party.
  - c. Both parties must give up something, and the value of what is given up must be equal.
  - d. The subject matter of the contract must be legal.
- 35.** Which of the following is **not** a step in the data analytics process?
- a. Communicating the results only to management and/or the board.
  - b. Cleaning the data.
  - c. Gathering all relevant data.
  - d. Knowing which questions need to be answered.
- 36.** Data analytics is the process of gathering and analyzing data in a way that produces meaningful information to aid in decision-making. Which of the following would **not** be a common use of data analytics within internal audit?
- a. Assess control performance.
  - b. Perform segregation of duties analysis.
  - c. Assess regulatory requirements.
  - d. Recommend capital investment projects.
- 37.** Which of the following is **not** a strategy to restrict data access?
- a. Something you remember.
  - b. Something you know.
  - c. Something you are.
  - d. Something you have.
- 38.** Which of the following would **not** be considered a physical security control?
- a. Manned guard posts.
  - b. A biometric access system.
  - c. Alarm systems.
  - d. Guard dogs.
- 39.** An internal auditor is reviewing the effectiveness of a company's logical data security system. The auditor should consider all of the following issues **except**:
- a. Is the organization's Closed-Circuit Television (CCTV) system adequate enough so that all locations throughout the facility are monitored and recorded?
  - b. Are all unauthorized access attempts denied and reported?
  - c. Is there a complete audit trail whenever access rights and data are modified?
  - d. Does the IT system provide assurance that only authorized personnel have access to data?

- 40.** A firm has recently converted its purchasing cycle from a manual process to an online computer system. Which of the following is a probable result associated with conversion to the new automatic system?
- a. Processing errors are increased.
  - b. The firm's risk exposures are reduced.
  - c. Processing time is reduced.
  - d. Traditional duties are more segregated.
- 41.** The purpose of input controls is to ensure the:
- a. Authorization of access to data.
  - b. Authorization of access to program files.
  - c. Completeness, accuracy, and validity of data updates.
  - d. Completeness, accuracy, and validity of input.
- 42.** Your company has become worried about recent attempts to gain unauthorized access to its confidential R&D information. You have been asked to implement a system that will require individuals to enter a password and additional information known only to the authorized user. What is this type of system called?
- a. User authorization.
  - b. Two-factor authentication.
  - c. User authentication.
  - d. Three-factor authentication.
- 43.** You have been asked to review your company's security controls. More specifically, you have been asked which of the following provides the strongest form of authentication:
- a. Passwords and user IDs.
  - b. Token-based authentication.
  - c. Retina of the eyes.
  - d. A fob.
- 44.** Which of the following is **correct** concerning a firewall?
- a. A firewall creates a gateway to and from the Internet.
  - b. A firewall serves as a barrier between internal and external networks and prevents unauthorized access to the internal network.
  - c. Both of the above.
  - d. None of the above.
- 45.** The purpose of a proxy server is to:
- a. Process and filter requests for Web pages.
  - b. Provide a suite of communication protocols used to connect network devices on the internet.
  - c. Provide defense against port scans.
  - d. Process client requests for database access.

- 46.** Which of the following would provide the **least** amount of security for sensitive data stored on a laptop?
- a. Encrypting data files on the laptop.
  - b. Using password protection for the screen-saver program on the laptop.
  - c. Using a laptop with a removable hard disk drive.
  - d. Locking the laptop in a case when not in use.
- 47.** Which of the following statements about encryption is/are **correct**?
- a. Encryption protects business information from eavesdropping when it is transmitted over the Internet.
  - b. Public key systems are more secure than secret key systems.
  - c. Encryption preserves the secrecy of information stored in databases from unauthorized users.
  - d. All of the above are true.
- 48.** A digital signature:
- I. Ties an electronic message to the sender's identity.
  - II. Is an encrypted signature of the sender.
  - III. Proves that the message was not altered during transit.
  - IV. Is required when transmitting emails.
- a. I and II.
  - b. II and III.
  - c. II, III and IV.
  - d. I and III.
- 49.** Which of the following operating procedures increases the company's risk to viruses?
- a. Encrypting data files.
  - b. Conducting frequent backup of files.
  - c. Downloading public-domain software from websites.
  - d. Installing original copies of purchased software.
- 50.** Which of the following types of software pretends to offer useful or desirable features but actually contains damaging code?
- a. Trojan horse.
  - b. Virus.
  - c. Worm.
  - d. Spyware.
- 51.** The purpose of the General Data Protection Regulation (GDPR) is primarily intended to:
- a. Require financial institutions to have and disclose their privacy policy.
  - b. Regulate government agencies and their responsibilities to protect individuals' personal data.
  - c. Protect health data and provide standards for how it should be stored, accessed, and exchanged.
  - d. Strengthen and unify data protection for individuals within the EU.

- 52.** What is the broad term for software that covers viruses, worms, Trojan horses, etc.?
- a. Spyware.
  - b. Phishing.
  - c. Malware.
  - d. Ransomware.
- 53.** Which of the following is **not** a general principle of the Fair Information Practice Code?
- a. Notice.
  - b. Integrity.
  - c. Enforcement.
  - d. Choice.
- 54.** Responsibility for the control of end-user computing (EUC) exists at the organizational, departmental, and individual user level. Which of the following should be a direct responsibility of the individual user?
- a. Acquisition of hardware and software.
  - b. Taking equipment inventories.
  - c. Strategic planning of end-user computing.
  - d. Physical security of equipment.
- 55.** In the organization of the IT function, the most important separation of duties is:
- a. Not allowing the data librarian to assist in data processing operations.
  - b. Ensuring that those responsible for programming the system do not have access to data processing operations.
  - c. Having a separate information officer at the top level of the organization outside of the accounting function.
  - d. Using different programming personnel to maintain utility programs from those who maintain the application programs.
- 56.** The duties properly assigned to an information security officer could include all of the following **except**:
- a. Developing an information security policy for the organization.
  - b. Maintaining and updating the list of user passwords.
  - c. Commenting on security controls in new applications.
  - d. Monitoring and investigating unsuccessful access attempts.
- 57.** A Denial of Service (DOS) attack:
- a. Attempts to break into a system by guessing passwords.
  - b. Executes a Trojan horse on a system.
  - c. Overloads a system so that legitimate users cannot connect.
  - d. Deceives people into disclosing sensitive personal information.

- 58.** In which of the following scenarios is the internal auditor using “the cloud?”
- a. The auditor creates a timeline for a new project using an online spreadsheet.
  - b. The auditor saves working papers on a company file server.
  - c. The auditor sends a memo to the CAE as an email attachment.
  - d. The auditor uses the Internet to research emerging technologies.
- 59.** An internal auditor has just completed a review of an organization. Which of the following weaknesses would the internal auditor consider the **most** serious?
- a. Lack of separation of duties for critical functions.
  - b. Weak password controls without effective policy enforcement.
  - c. Business continuity plans include non-essential applications.
  - d. The network server is not backed up regularly.
- 60.** Which of the following statements is **true** concerning an Internet worm? A worm:
- a. Is able to travel independently through computer systems.
  - b. Self-replicates and attaches itself to files during execution.
  - c. Uses backdoors to access system resources.
  - d. Can be dormant until triggered by a particular date or time.
- 61.** Which of the following would be the most appropriate starting point for a compliance evaluation of software licensing requirements for an organization with more than 15,000 computers?
- a. Determine if software installation is controlled centrally or distributed throughout the organization.
  - b. Determine what software packages have been installed on the organization’s computers and the number of each package installed.
  - c. Determine how many copies of each software package have been purchased by the organization.
  - d. Determine what mechanisms have been installed for monitoring software usage.
- 62.** Which of the following is **not** an objective of internal controls for an information system?
- a. Checking the accuracy and reliability of accounting data.
  - b. Promoting the effectiveness and efficiency of operations.
  - c. Assuring compliance with all laws and regulations.
  - d. Safeguarding assets.
- 63.** The system implementation phase of the system development life-cycle (SDLC) is where a company transitions from the old system to the new. The following are ways of transitioning **except**:
- a. Running the old and new systems concurrently.
  - b. Testing the new application in one department or worksite before full implementation.
  - c. Upgrading the old system.
  - d. Changing from the old system to the new system all at once.

- 64.** Which system conversion method is the **least** risky?
- a. Phased or modular conversion.
  - b. Parallel conversion.
  - c. Plunge or direct conversion.
  - d. Pilot conversion.
- 65.** Which of the following is **not** true concerning the advantages of developing a prototype model?
- a. The prototype can be developed in a short period of time.
  - b. The company is able to try the prototype before extensive development costs are incurred.
  - c. The prototype is useful when it is difficult to know in advance what the user requirements are.
  - d. The prototype development costs are always less than using other methods.
- 66.** The benefits of a Rapid Application Development (RAD) are all of the following **except**:
- a. A system can be developed in a shorter timeframe.
  - b. It increases the reusability of system components.
  - c. Highly specialized and skilled developers are required.
  - d. It is a way to develop software while there is a market for it.
- 67.** Minimizing the likelihood of unauthorized editing of software can best be accomplished by:
- a. Database access reviews.
  - b. Compliance reviews.
  - c. Good change-control procedures.
  - d. Effective network security software.
- 68.** If a database has integrity, the:
- a. Software was implemented after extensive acceptance testing.
  - b. Database has only consistent data.
  - c. Database is secure from accidental entry.
  - d. Database and the system have been reviewed by an external auditor.
- 69.** Which of the following is **not** a function of a database management system (DBMS)?
- a. It provides backup and data recovery.
  - b. It improves data consistency.
  - c. It minimizes data redundancy.
  - d. It serves as an interface between users and the database.
- 70.** The map or plan of the entire database is called the:
- a. Data Definition Language (DDL).
  - b. Schema.
  - c. Data Manipulation Language (DML).
  - d. Structured Query Language (SQL).

- 71.** Which one of the following is a computer language used for adding (inserting), deleting, and modifying (updating) data in a database?
- a. Data Manipulation Language (DML).
  - b. Data Definition Language (DDL).
  - c. Query Language.
  - d. Graphic User Interface (GUI).
- 72.** Franklin Inc. is a medium-size manufacturer of toys that makes 25% of its sales to Mega Company, a major national discount retailing firm. Mega will be requiring Franklin and other suppliers to use Electronic Data Interchange (EDI) for inventory replenishment and trade payment transactions as opposed to the paper-based systems previously used. Franklin would consider all of the following to be advantages of using EDI in its dealings with Mega **except**:
- a. Access to Mega's inventory balances of Franklin's products.
  - b. Better status tracking of deliveries and payments.
  - c. Compatibility with Franklin's other procedures and systems.
  - d. Reduction in the payment float.
- 73.** A Customer Relationship Management (CRM) system can do all of the following **except**:
- a. Track customer information, such as purchases, returns, etc.
  - b. Calculate customer profitability.
  - c. Let customers know when their goods have been shipped.
  - d. Provide reminders if a customer's invoice is not paid.
- 74.** The communication protocol used on the Internet, intranets, and extranets is:
- a. https
  - b. URL
  - c. TCP/IP
  - d. www
- 75.** The primary **benefits** of an Enterprise Resource Planning (ERP) system for businesses are:
- a. Forecasting, strategizing, marketing campaigns, invoicing, and collection.
  - b. Forecasting, production planning, material purchasing, material management, warehousing, inventory, and distribution.
  - c. Forecasting, resource and capacity constraint modeling, human resource requirements, invoicing, and marketing campaigns.
  - d. All of the above.
- 76.** The benefits of a well-planned GRC strategy include all of the following **except**:
- a. Promoting a silo effect.
  - b. More optimal IT investments.
  - c. Reduced fragmentation among divisions and departments.
  - d. Improved decision-making.

- 77.** Which of the following is **not** a disadvantage of a client/server networking system?
- a. The server is expensive to purchase.
  - b. Specialized staff such as a network manager is needed.
  - c. Backups and network security are controlled centrally.
  - d. System maintenance is more difficult.
- 78.** The COBIT 5 goals cascade assists with which of the following elements of governance:
- a. Providing a simple governance and management framework.
  - b. Integrating IT governance into corporate-wide governance.
  - c. Defining the relationship between corporate governance and management.
  - d. Prioritizing the stakeholders' needs.
- 79.** Based on ISO 27000, which of the following is not a step for creating and improving an Information Security Management System (ISMS)?
- a. Identifying information security requirements.
  - b. Continuous improvement of the ISMS system.
  - c. Assessing and treating information security risks.
  - d. Determining the organization's IS risk appetite.
- 80.** The **best** evidence that contingency planning is effective is to have:
- a. No processing interruptions during the past year.
  - b. Comprehensive documentation of the plan.
  - c. Signoff on the plan by the internal audit activity.
  - d. Successful testing of the plan.
- 81.** Contingency plans for information systems should include appropriate backup arrangements. Which of the following arrangements would be considered too vendor-dependent when vital operations require almost immediate availability of computer resources?
- a. A "hot site" arrangement.
  - b. A "cold site" arrangement.
  - c. A "cold and hot site" combination arrangement.
  - d. Using excess capacity at another data center within the organization.
- 82.** In December year 1, catalogs were printed for use in a special promotion in January year 2. The catalogs were delivered by the printer on December 13, year 1, with an invoice for 70,000. Payment was made in January year 2. The 70,000 should be reported as a deferred cost at the December 31, year 1 balance sheet date because of the:
- a. Matching principle.
  - b. Revenue recognition principle.
  - c. Reliability principle.
  - d. Cost principle.



- 83.** Good information has four characteristics. The materiality and nature of an item are associated with which one of the four characteristics?
- Relevance
  - Understandability
  - Reliability
  - Comparability

- 84.** On January 1, a new landscaping firm acquired a fleet of vehicles, all the necessary tools and equipment, and a parking and storage facility. It began operations immediately. It is now the end of the first year of operations, and the first set of year-end financial statements are being prepared. Several decisions have to be made regarding the appropriate accounting and reporting practices for this company. Relevant information for several of these items is described in the following list of transactions and events:

- At year-end, the parking and storage facility that was purchased for 150,000 has a fair value of 250,000.
- The physical flow of inventory is first in, first out and the cost of materials has risen steadily over the year.
- To promote sales for the coming year, maintenance contracts were sold in December at very reasonable prices, provided that the customers paid cash.
- On April 1, the company arranged a 100,000, 10% bank loan. Interest payments of 5,000 are due on October 1 and April 1 of each year during the 5-year term of the loan.
- During the first year of operations, the company experienced a 5% bad debt rate on credit sales. None of the bad debts are expected to be recovered, given that 5% is the industry average level of bad debts.
- Total credit sales for the year were 400,000. The year-end balance of accounts receivable, which includes uncollected overdue accounts, is 100,000. Half of the uncollected overdue amounts are estimated to be uncollectible.

The company will report a value of <List A> for the parking and storage facility if it prepares financial reports consistent with the <List B> principle.

**List A**

**List B**

- |    |         |                     |
|----|---------|---------------------|
| a. | 150,000 | Matching            |
| b. | 150,000 | Historical cost     |
| c. | 250,000 | Going concern       |
| d. | 250,000 | Revenue recognition |

- 85.** Which one of the following would most likely be considered a discontinued operation?
- A multinational corporation sells one of its divisions for a loss. The division accounts for 4% of consolidated revenue.
  - A multinational corporation, which includes restaurants, sells one of its restaurants for a profit.
  - A multinational corporation sells a division for a profit. The division accounts for 4% of the asset base of the consolidated assets.
  - A multinational corporation sells its restaurant business (100 restaurants) for a loss.

- 86.** An internal auditor is deriving cash flow data based on an incomplete set of facts. Bad debt expense was 4,000. Additional data for this period follows:

Net sales	200,000
Accounts receivable beginning balance	10,000
Allowance for bad debts beginning balance	(1,000)
Accounts receivable written off	2,000
Increase in net accounts receivable (after subtraction of allowance for bad debts)	60,000

How much cash was collected this period?

- a. 134,000
  - b. 137,000
  - c. 136,000
  - d. 140,000
- 87.** The cost of materials has risen steadily over the year. Which of the following methods of estimating the ending balance of the materials inventory account will result in the highest net profit, assuming all other variables remain constant?
- a. Last-in, first-out (LIFO).
  - b. First-in, first-out (FIFO).
  - c. Weighted average.
  - d. Specific identification.
- 88.** Hi-Life Products provided the following income statement information to the company's CEO. To show trends between years, the company's management accountant presented the information in percentage form, with 2014 as the baseline.

**Note:** Gross margin % in 2014 was 30%.

Item	Years				
	2014	2015	2016	2017	2018
Sales	100%	105%	116%	129%	145%
Cost of Goods Sold	100%	104%	118%	132%	150%
Gross Margin	100%	107%	111%	122%	133%

Based on the information given above, which of the following statements is true?

- a. The company's gross margin percentage increased from 30% to 40% by 2018.
- b. Between 2017 and 2018, the cost of goods sold increased by 18%.
- c. Between 2017 and 2018, sales increased by 16%.
- d. The company's gross margin percentage decreased from 30% to 27.6% by 2018.

- 89.** An inventory turnover ratio that is below the industry average could be an indication that a company:
- Has a potential leverage problem.
  - Will not be able to pay its short-term obligations.
  - Is not producing adequate levels of earnings.
  - Is holding excessive stocks of unproductive inventory that could lessen profitability.
- 90.** The CEO of Manning Corporation is deciding whether to make an investment into a new project. The cost of the project is expected to be \$230,000. The project's after-tax cash flows are estimated to increase by \$30,000 per year in perpetuity. Assuming the cost of capital is 12%, should the CEO make the decision to invest in the new project?
- Yes, because the NPV is \$30,000.
  - Yes, because the NPV is \$20,000.
  - No, because the  $k > \text{IRR}$ .
  - The answer cannot be determined.
- 91.** RusTech Corporation has two divisions: the Far West division and the European division. The Far West division sells goods internally to the European division. The quoted external price in industry publications from a supplier near Far West is 320.00 per ton plus transportation. It costs 50.00 per ton to transport the goods to the European division. Far west's market cost per ton to buy the direct materials to make the transferred product is 150.00. Direct labor is 50.00 per ton. Other costs of storage and handling are 40.00. RusTech's CEO selects a 290.00 transfer price. This is an example of:
- Market-based transfer pricing.
  - Cost-based transfer pricing.
  - Negotiated transfer pricing.
  - Cost-plus-20% transfer pricing.
- 92.** The managers of a manufacturing company take their budgeting process very seriously. Based on this, the company is more likely to experience all of the following **except**:
- Better coordination and communication among the business units and activities.
  - Better control over the costs of its inputs.
  - More efficient allocation of resources.
  - More motivated managers and employees.
- 93.** Which of the following costing systems treat research & development and after-sale costs as part of the production costs?
- Absorption costing.
  - Activity-based costing.
  - Life-cycle costing.
  - Variable costing.

- 94.** For the last operating period, a manufacturing company produced 250,000 units and sold 225,000 units. For the period, the company had no beginning inventory and the following costs were incurred during the period:

**Variable costs per unit:**

Direct materials	\$15.00
Direct labor	10.00
Manufacturing overhead	12.50
Selling and administrative	2.50

**Total fixed costs:**

Manufacturing overhead	\$2,250,000
Selling and administrative	1,500,000

The difference between operating profit calculated on the absorption-costing basis and on the variable-costing basis is that absorption-costing operating profit is:

- a. \$250,000 greater.
  - b. \$225,000 greater.
  - c. \$375,000 greater.
  - d. \$87,500 less.
- 95.** Which of the following techniques would be best for evaluating the management performance of a department that is operated as a cost center?
- a. Return on assets ratio.
  - b. Return on investment ratio.
  - c. Payback method.
  - d. Variance analysis.
- 96.** In a company, products pass through some or all of the production departments during manufacturing, depending upon the product being manufactured. Direct material and direct labor costs are traced directly to the products as they flow through each production department. Manufacturing overhead is assigned in each department using separate departmental manufacturing overhead rates. The inventory costing method that the manufacturing company is using in this situation is:
- a. Absorption costing.
  - b. Activity-based costing.
  - c. Backflush costing.
  - d. Variable costing.
- 97.** A corporation manufactures two brands of barbed wire fencing for sale to wholesalers and large ranchers. Which of the following would be the best type of costing system for such a company to use?
- a. Life-cycle costing.
  - b. Job-order costing.
  - c. Process costing.
  - d. Variable costing.

- 98.** The following data applies to one item sold by a large retailer:

Purchase price	4.95
Variable selling expenses	2.00
Variable administrative expenses	1.00
Fixed costs	7,500
Expected annual sales	5,000 units

Using the contribution approach to pricing, which of the following prices is the lowest that can be charged in the short run?

- a. 5.00
- b. 7.00
- c. 8.00
- d. 9.50

- 99.** Axles Я Us LLC manufactures axles for the passenger cars. The company currently produces 10,000 axles per month (capacity is 13,000).

The following per-unit data is for sales to regular customers:

Direct materials	300
Direct manufacturing labor	50
Variable manufacturing overhead	100
Fixed manufacturing overhead	400
<hr/>	
Total manufacturing cost	850

Axles Я Us has been approached by an outside supplier to produce the same axles at the same quality level. The supplier would also guarantee timely delivery. If the company does agree to outsource its production, it is estimated that fixed costs would be reduced by 30%. What is the maximum amount per unit that Axles Я Us can pay the supplier without decreasing operating income?

- a. 570
- b. 730
- c. 850
- d. 450

**100.** Data regarding the year's operations for RusMetal that had no beginning or ending inventories is:

Sales (150,000 units)	9,000,000
Variable costs:	
Direct materials	1,800,000
Direct labor	720,000
Manufacturing overhead	1,080,000
Selling expense	450,000
Fixed costs:	
Manufacturing overhead	600,000
Administrative expenses	567,840
Selling expenses	352,800
Income tax rate	40%

Based on the above data, the breakeven point in unit sales for the year is:

- a. 36,495
- b. 42,240
- c. 46,080
- d. 56,320

## Solutions

The chart below cross-references the question numbers for Part 3 with the topics tested:

Sections	Topics Tested	Question Numbers
<b>Section I</b> – Business Acumen	1. Organizational Objectives, Behavior, and Performance	1 – 15
	2. Organizational Structure and Business Processes	16 - 34
	3. Data Analytics	35 - 36
<b>Section II</b> – Information Security	1. Information Security	37 – 61
<b>Section III</b> – Information Technology	1. Application and System Software	62 - 75
	2. IT Infrastructure and IT Control Framework	76 - 79
	3. Disaster Recovery	80 - 81
<b>Section IV</b> – Financial Management	1. Financial Accounting and Finance	82 - 91
	2. Managerial Accounting	92 - 100

### 1. Solution: c (I and IV only)

- I. **Correct.** Strategic planning is concerned with both quantifiable and qualitative matters.
- II. Incorrect. Strategic planning is mainly an executive management undertaking.
- III. Incorrect. Strategic planning is predominantly concerned with the long-term.
- IV. **Correct.** Strategic planning is undertaken mainly by senior management, which makes it a top-down process.

### 2. Solution: c

- a. Incorrect. Defining the company's mission is a step in the strategic planning process.
- b. Incorrect. Analyzing the company's internal and external environments is a step in the strategic planning process.
- c. **Correct.** Identifying the company's resources for dealing with external threats is not a step in the strategic planning process.
- d. Incorrect. Developing and implementing strategies is a step in the strategic planning process.

### 3. Solution: b

- a. Incorrect. Rebranding would be a way to increase market share, so this would be a business-level strategy.
- b. **Correct.** Functional-level strategies are the specific actions and benchmarks assigned to departments (and individuals) that move the business toward the goal created by the corporate-level strategy. If the corporate-level strategy is to increase market share, then a specific action (i.e., functional-level strategy) to accomplish the corporate-level strategy would be to redesign the product to make it cheaper to produce.
- c. Incorrect. Improving the quality of a product would be a way to increase market share, so this would be a business-level strategy.
- d. Incorrect. Increasing the marketing budget would be a way to increase market share, so this would be a business-level strategy.

### 4. Solution: a

- a. **Correct.** A successful strategic plan has support across a diverse set of stakeholders, not narrow.
- b. Incorrect. A clear understanding of the organization's capacity and resources is a factor for a successful strategic plan.
- c. Incorrect. Taking a bottom-up and top-down communication approach is a factor for a successful strategic plan.
- d. Incorrect. Engagement of all levels of staff throughout the organization is a factor for a successful strategic plan.

### 5. Solution: b

- a. Incorrect. Residual income is calculated by subtracting operating income minus some targeted return. In this problem, operating income is \$25,000. If total assets available are \$500,000 and cost of capital is 6%, then targeted return is \$30,000 ( $\$500,000 \times 6\%$ ). Therefore, residual income is:  $\$25,000 - \$30,000 = \$(5,000)$ , not \$8,000.
- b. **Correct.** Return on Investment is calculated by dividing operating income by assets. In this problem, operating income is \$25,000. If total assets available are \$500,000, then ROI is 5% ( $\$25,000 \div \$500,000$ ).
- c. Incorrect. Residual income is \$(5,000), not \$(15,000). See choice a.
- d. Incorrect. ROI is 5%, not 3%. See choice b.



**6. Solution: b**

- a. Incorrect. A lower production cost is an example of superior efficiency, which is a distinctive competency.
- b. **Correct.** Paying employees more than competitors is not a distinctive competency.
- c. Incorrect. Creating new products is an example of innovation, which is a distinctive competency.
- d. Incorrect. Lowering customer delivery time improves customer satisfaction, which is a distinctive competency.

**7. Solution: d**

- a. Incorrect. Increasing sales revenue would be a financial perspective goal.
- b. Incorrect. Reducing the percentage of customer complaints would be a customer perspective goal.
- c. Incorrect. Reducing the time between taking an order and the customer receiving a quote would be an internal business process goal.
- d. **Correct.** Increasing the amount of staff would, by itself, not be a goal.

**8. Solution: d**

- a. Incorrect. TQM and MBO have conflicting purposes. TQM is the pursuit of quality in every aspect of the production process, whereas MBO is the pursuit of numerical quotas.
- b. Incorrect. A characteristic of TQM is continuous education and self-improvement of everyone, not just on-the-job training by other workers.
- c. Incorrect. With a properly-implemented TQM program, a final inspection is unnecessary.
- d. **Correct.** A characteristic of TQM is that employees at all levels participate regularly in continuing education and training in order to promote and maintain a culture of quality.

**9. Solution: b**

- a. Incorrect. Preventive costs are incurred to prevent defects from happening.
- b. **Correct.** Appraisal costs include costs such as testing during the production process to make sure that if defects do occur, that they are caught and not sent to the customer. Therefore, they are costs that are incurred to detect which products do not conform to specifications.
- c. Incorrect. Rework costs are a type of failure costs.
- d. Incorrect. Failure costs are incurred in the repair of nonconforming products.

**10. Solution: d**

- a. Incorrect. \$9,200 is not the cost of conformance. See the correct answer.
- b. Incorrect. \$5,800 is not the cost of conformance. See the correct answer.
- c. Incorrect. \$8,200 is not the cost of conformance. See the correct answer.
- d. **Correct.** Prevention and appraisal costs are the company's conformance costs. Conformance costs would include maintenance costs (\$5,000), quality training (\$800), and quality auditing costs (\$2,000). Based on this, the total conformance costs are \$7,800.

### 11. Solution: c

- a. Incorrect. Security and safety needs are lower-level needs. The internal auditor has already achieved these needs.
- b. Incorrect. Social needs are higher-order needs, but it seems the internal auditor has already achieved his/her social needs.
- c. **Correct.** Based on Maslow's hierarchy of needs, it seems that the internal auditor has achieved a higher order need of Esteem. The internal auditor has a generous salary, participates in a bonus program, and does some foreign travel. The internal auditor seems to have the status and recognition within the company.
- d. Incorrect. Self-actualization is where the internal auditor becomes everything he/she is capable of becoming. The given information does not include the internal auditor achieving his/her full potential.

### 12. Solution: a

- a. **Correct.** A person's motivation is based upon the need for achievement, power, and affiliation. McClelland said that good managers have a high need for power.
- b. Incorrect. McClelland said that a person with a high need for achievement would make a good entrepreneur but not a very good senior executive because he/she would have trouble delegating.
- c. Incorrect. McClelland said that good senior executives must have a low need for affiliation (approval from others and concern for the feelings of others) because their power may alienate them from others.
- d. Incorrect. A concern for the feelings of others does not necessarily make for a good executive.

### 13. Solution: b

- a. Incorrect. Job enlargement is considered a horizontal restructuring model.
- b. **Correct.** Job enrichment is a vertical restructuring method by virtue of giving the employee additional authority, autonomy, and control over the way the job is accomplished.
- c. Incorrect. Job rotation is considered a horizontal restructuring model.
- d. Incorrect. Job specialization is where a person becomes very highly skilled.

### 14. Solution: d

- a. Incorrect. Having a favorable view of a group would enhance its cohesiveness.
- b. Incorrect. The similarity of the group's members would enhance the cohesiveness of the group.
- c. Incorrect. Having a common threat would enhance the cohesiveness of a group.
- d. **Correct.** Cohesiveness would be associated more with smaller groups.

### 15. Solution: c

- a. Incorrect. See the correct answer.
- b. Incorrect. See the correct answer.
- c. **Correct.** A cross-functional team is a group of people with different functional expertise working toward a common goal. In a cross-functional team, every expert is a leader or manager of the whole operation when there is a problem related to his or her specialty.
- d. Incorrect. A problem-solving team is a temporary team that works on a specific problem. The team is disbanded once a solution has been found.

### 16. Solution: b (II and III only)

- I. Incorrect. Decentralized organizations are not easier to control because some amount of control is given to lower-level managers, thereby making control more difficult.
- II. **Correct.** Because lower-level managers have some autonomy in decision-making, decisions can be made faster.
- III. **Correct.** Decentralized organizations allow lower-level employees to participate in decision-making. This increased involvement encourages initiative and creative thinking and is especially appropriate in complex and rapidly-changing environments.
- IV. Incorrect. The number of managers in an organization is not related to the degree of centralization or decentralization, but rather is a function of the span of control.

### 17. Solution: a (I and III only)

- I **Correct.** Supervisors do delegate authority to make decisions, but the ultimate responsibility for the decision still lies with the superior.
- II. Incorrect. Span of control is ultimately going to depend on the supervisor's training, abilities, time available to supervise, and other factors.
- III. **Correct.** Responsibility to perform a task has to be accompanied with the authority to perform the task.
- IV. Incorrect. Employee empowerment is not a characteristic of a hierarchical organization.

### 18. Solution: a

- a. **Correct.** Organic structures are characterized by their flexibility and lack of formalization. They are best suited for high-tech companies where competition is fierce and companies have to be able to adapt very quickly to a changing business environment.
- b. Incorrect. Matrix is not a type of structure, but rather a type of departmentation.
- c. Incorrect. A mechanistic structure is characterized by tight control and a high level of formalization and is more suited to mass production or operational efficiency.
- d. Incorrect. This is not a type of structure.

### 19. Solution: d

- a. Incorrect. The size-structure relationship is likely to be linear, but only within a narrow range.
- b. Incorrect. There is no magic number at which a structure becomes fixed.
- c. Incorrect. This is a nonsense answer; concave is not a type of relationship.
- d. **Correct.** The size-structure relationship is linear, but only within a certain range. For example, if a company grows from 100 employees to 200 then its structure will change significantly. However, adding 100 employees to a workforce of 10,000 will have little impact on the structure.

### 20. Solution: a

- a. **Correct.** Professional bureaucracy is a complex and formal organization, but one that is decentralized where the specialists of production have great amounts of independence.
- b. Incorrect. This describes a mechanistic structure that is complex, formal, and centralized.
- c. Incorrect. This describes a simple structure where there is low complexity and authority is centralized. This type of structure is seen in smaller, more entrepreneurial organizations.
- d. Incorrect. This describes a machine bureaucracy, which is formal and complex.

### 21. Solution: b (I, II and III only)

- I. **Correct.** Departmentation by function is the most common form of departmentation, such as marketing, finance, human resources, procurement, credit, etc.
- II. **Correct.** Departmentation by territory is when the company is divided along geographical lines.
- III. **Correct.** Departmentation by-product is growing in importance as more companies want to provide greater control over a product or product line.
- IV. **Incorrect.** This is not a form of departmentation.

### 22. Solution: c

- a. **Incorrect.** An advantage of functional departmentation is that it facilitates efficiency in the utilization of people.
- b. **Incorrect.** An advantage of functional departmentation is that performance evaluation is enhanced because tasks and activities are similar.
- c. **Correct.** With functional departmentation, there would be a lower degree of differentiation, not higher.
- d. **Incorrect.** An advantage of functional departmentation is that tasks and activities are similar so there would be better communication within the department.

### 23. Solution: c

- a. **Incorrect.** A professional bureaucracy is a structure with high complexity and low formalization.
- b. **Incorrect.** A mechanistic structure is one that is highly formalized and standardized and has no dual authority structure. It is not the optimal structure.
- c. **Correct.** A matrix organizational structure combines functional and product departmentalization, which creates a dual reporting structure and is optimal where product groups are necessary.
- d. **Incorrect.** In a machine bureaucratic structure, rules and regulations permeate the entire structure and tasks are highly routine.

### 24. Solution: b

- a. **Incorrect.** A divisional structure essentially operates as its own company.
- b. **Correct.** An adhocracy organization has low complexity and is not very formal. There is low vertical differentiation and high horizontal differentiation. The emphasis is on flexibility and response, and it encourages innovation.
- c. **Incorrect.** A machine bureaucracy is a complex, formal organization that performs highly routine tasks.
- d. **Incorrect.** A professional bureaucracy is more decentralized than a machine bureaucracy. Power is in the hands of specialists or highly qualified professionals (i.e., doctors, professors, etc.), assisted by a group of support administrators.

### 25. Solution: a

- a. **Correct.** The size of the organization will not directly affect a manager's span of control.
- b. **Incorrect.** The available time a manager has to supervise employees will affect a manager's span of control. The more time the manager has, the more employees the manager would be able to supervise.
- c. **Incorrect.** The communication skills of the manager will directly affect the manager's ability to supervise employees.
- d. **Incorrect.** The more standardized the tasks to be performed by the employees, the more employees (a wider span of control) the manager would be able to supervise.

**26. Solution: c**

- a. Incorrect. Job design is the process of bringing together different tasks to build a job.
- b. Incorrect. A job specification is the minimum education, knowledge, abilities, experience, etc. that an employee must possess to perform the job successfully.
- c. **Correct.** A job description is a written statement of the responsibilities of the job position, including how and why the job is done.
- d. Incorrect. Job evaluation is the system of ranking jobs in a firm on the basis of the relevant characteristics, duties, and responsibilities.

**27. Solution: d**

- a. Incorrect. Offering time off for learning would be a good way to keep skills and knowledge up to date.
- b. Incorrect. Communicating the company's goals and long-term strategies is a way for internal auditors to understand the company's plans so that they can align their goals with the goals of the company.
- c. Incorrect. Offering tuition reimbursement encourages internal auditors to maintain their skills and knowledge.
- d. **Correct.** The reverse would be true, if the new hires were assigned mentors from the current staff.

**28. Solution: b**

- a. Incorrect. This statement is true. The procurement manager should review the purchase requisition and approve (or reject) the purchase of goods.
- b. **Correct.** This statement is incorrect. Custody of the goods lies with the receiving department, not with purchasing.
- c. Incorrect. This statement is true. An accounts payable clerk should record the transaction to the accounts payable journal.
- d. Incorrect. This statement is true. An accounting clerk should record the transaction to the general ledger.

**29. Solution: b**

- a. Incorrect. This is a risk of the sales department.
- b. **Correct.** This is a risk of the credit department, not the sales department.
- c. Incorrect. This is a risk of the sales department.
- d. Incorrect. This is a risk of the sales department.

**30. Solution: c**

- a. Incorrect. A company should only outsource those functions that are not considered to be vital to the company's survival. The IT functions of an Internet company therefore are not likely to be outsourced.
- b. Incorrect. R&D of a pharmaceutical company should not be outsourced.
- c. **Correct.** Payroll accounting would not be considered a vital process of manufacturing company, so it could be outsourced.
- d. Incorrect. Product development in a manufacturing company is probably a vital function, so it should not be outsourced.

**31. Solution: c**

- a. Incorrect. ACDF is thirteen days ( $5 + 2 + 6$ ). This is not the critical path.
- b. Incorrect. ACEF is twelve days ( $5 + 5 + 2$ ). This is not the critical path.
- c. **Correct.** ABEF is the longest path ( $6 + 6 + 2$ ). Therefore, this is the critical path.
- d. Incorrect. ABCDEF is not a path.

**32. Solution: a**

- a. **Correct.**
- b. Incorrect. The Delphi technique is a qualitative forecasting approach.
- c. Incorrect. ABC analysis is a way to allocate overhead costs to products.
- d. Incorrect. The branch-and-bound solution is an integer programming solution.

**33. Solution: d**

- a. Incorrect. The critical path is not shown on a Gantt chart.
- b. Incorrect. Linear programming is used to determine an optimal product mix.
- c. Incorrect. A Gantt chart shows the activities to be completed. It does not show the activities along the critical path of the network.
- d. **Correct.** A Gantt or bar chart is sometimes used in conjunction with PERT or CPM to show the progress of a special project. Time is shown on the horizontal axis, the length of a bar equals the length of an activity, and shading indicates the degree of completion. However, the Gantt chart is not as sophisticated as PERT or CPM in that it does not reflect the relationships among the activities or define a critical path.

**34. Solution: c**

- a. Incorrect. For a contract to be valid, there must first be an offer.
- b. Incorrect. For a contract to be valid, the contract must be accepted by the other party.
- c. **Correct.** For a contract to be valid both parties must give up something; however, the value of what is given up does not need to be equal.
- d. Incorrect. For a contract to be valid, the subject matter of the contract must be legal.

**35. Solution: a**

- a. **Correct.** Results should be communicated to whoever would benefit from the results of the analysis, which is not likely to be management and the board.
- b. Incorrect. Cleaning the data by removing duplicate data is a step in the data analytics process.
- c. Incorrect. Gathering all relevant data is a step in the data analytics process.
- d. Incorrect. Knowing which questions need to be answered is the first step in the data analytics process.

**36. Solution: d**

- a. Incorrect. Assessing control performance is a common use of data analytics within internal audit.
- b. Incorrect. Performing segregation of duties analysis is a common use of data analytics within internal audit.
- c. Incorrect. Assessing regulatory requirements is a common use of data analytics within internal audit.
- d. **Correct.** Recommending capital investment projects is done at the executive management and board level.

**37. Solution: a**

- a. **Correct.** Something you remember is not a strategy to restrict data access.
- b. Incorrect. The most common "something you know" is user IDs and passwords.
- c. Incorrect. Biometrics is the most common "something you are."
- d. Incorrect. The most common type of "something you have" is a fob.

**38. Solution: b**

- a. Incorrect. Manned guard posts are a physical control.
- b. **Correct.** Biometrics are a logical access control for identifying authorized users and the actions that they can perform.
- c. Incorrect. Alarm systems are a physical control.
- d. Incorrect. Guard dogs are a physical control.

**39. Solution: a**

- a. **Correct.** A Closed-Circuit Television (CCTV) system is a physical access control system issue, not a logical data security system issue.
- b. Incorrect. Understanding whether all unauthorized access attempts are denied and reported is a logical data security issue.
- c. Incorrect. Understanding whether there is a complete audit trail whenever access rights and data are modified is a logical data security issue.
- d. Incorrect. Understanding whether the IT system provides assurance that only authorized personnel have access to data is a logical data security issue.

**40. Solution: c**

- a. Incorrect. Going to a computer system should reduce processing errors.
- b. Incorrect. The conversion to a new system does not reduce the number of risk exposures.
- c. **Correct.** This is one of the advantages of going to a computerized system – processing time is reduced.
- d. Incorrect. In a computerized system, segregation of duties is not always possible. For example, a single computer may print checks, record disbursement, and generate information for reconciling the account balances.

**41. Solution: d**

- a. Incorrect. Access controls authorize access to data.
- b. Incorrect. Access controls authorize access to program files.
- c. Incorrect. Processing controls ensure the completeness, accuracy, and validity of data updates.
- d. **Correct.** Input controls provide reasonable assurance that data received for computer processing has been properly authorized and is in a form suitable for processing, i.e. complete, accurate, and valid.

**42. Solution: b**

- a. Incorrect. This type of access is referred to as a two-factor authentication.
- b. **Correct.** Two-factor authentication requires two independent, simultaneous actions before access to a system is granted. Requiring a password and other additional information is an example of a two-factor authentication.
- c. Incorrect. This type of access is referred to as a two-factor authentication.
- d. Incorrect. Three-factor authentication would require three layers of authentication.

**43. Solution: c**

- a. Incorrect. User IDs and passwords can be duplicated, guessed, or hacked.
- b. Incorrect. Token-based authentication is a security technique that authenticates the users who attempt to log in using a security token, but it is not the strongest form of authentication.
- c. **Correct.** Retinal scans and other biometric access controls cannot be duplicated and therefore are the strongest form of authentication.
- d. Incorrect. A fob is a tiny electronic device that generates a unique code to permit access. A fob is stronger than user IDs and passwords, but not as strong as biometrics.

**44. Solution: b**

- a. Incorrect. A proxy server creates a gateway to and from the Internet.
- b. **Correct.** A firewall serves as a barrier between internal and external networks and prevents unauthorized access to the internal network.
- c. Incorrect. Only answer (b) is correct.
- d. Incorrect. Answer (b) is correct.

**45. Solution: a**

- a. **Correct.** This is an accurate description of the primary use of a proxy server.
- b. Incorrect. TCP/IP, or Transmission Control Protocol/Internet Protocol, is a suite of communication protocols used to connect network devices on the internet.
- c. Incorrect. A firewall provides the best defense against port scans.
- d. Incorrect. A proxy server is not related to database access.

**46. Solution: b**

- a. Incorrect. Data encryption provides adequate security for notebook computers.
- b. **Correct.** Password protection for a screen-saver program can be easily bypassed.
- c. Incorrect. Removable hard drives would provide some level of security.
- d. Incorrect. Security is promoted by physically locking the notebook computer in a case.



**47. Solution: c**

- a. **Correct.** Encryption does protect business information from eavesdropping when transmitted over the Internet.
- b. **Correct.** Public key systems are more secure than secret key systems.
- c. **Correct.** Encryption would preserve the secrecy of information stored in databases.
- d. **Correct.** All of the answers are true.

**48. Solution: d (I and III)**

- I. **Correct.** A digital signature does tie an electronic message to the sender's identity.
- II. Incorrect. A digital signature is not an encrypted signature of a sender.
- III. **Correct.** A digital signature does prove that the message was not altered in transit.
- IV. Incorrect. Not all emails require a digital signature.

**49. Solution: c**

- a. Incorrect. Encrypting data does not increase the exposure to viruses.
- b. Incorrect. Conducting frequent backup of files does not increase the exposure to viruses.
- c. **Correct.** Viruses are spread through shared data. Downloading public-domain software carries the risk that contaminated data may enter the computer.
- d. Incorrect. Original copies of purchased software should be free of viruses.

**50. Solution: a**

- a. **Correct.** Trojan horses appear to do one thing but actually do another. Trojan horses are not technically viruses because they do not replicate.
- b. Incorrect. Viruses are programs that alter the way a computer operates. Viruses can damage programs, delete files, and reformat drives.
- c. Incorrect. A worm is a program that replicates itself from system to system without any host file.
- d. Incorrect. Spyware can secretly gather data, such as recording keystrokes in order to harvest banking details.

**51. Solution: d**

- a. Incorrect. The Financial Services Modernization Act of 1999 requires financial institutions to have and disclose their privacy policy regarding the sharing of their customers' personal information.
- b. Incorrect. The Federal Privacy Act of 1974 regulates government agencies and their responsibilities to protect individuals' personal data.
- c. Incorrect. The Health Insurance Portability and Accountability Act of 1996 protect healthcare data and provide standards for how it should be received, stored, accessed, and exchanged.
- d. **Correct.** The purpose of the GDPR was to strengthen and unify data protection for individuals within the EU.

**52. Solution: c**

- a. Incorrect. Spyware secretly gathers data.
- b. Incorrect. Phishing is a high-tech scam that uses spam email to deceive people into disclosing sensitive personal information such as credit card numbers.
- c. **Correct.** Malware broadly refers to malicious software including viruses, Trojan horses, and worms.
- d. Incorrect. Ransomware is a particularly dangerous malware that encrypts data on a system and then demands a ransom for decryption.

**53. Solution: b**

- a. Incorrect. Notice is a primary principle of the Fair Information Practice code. Notice refers to informing people about how their data is collected, used, and protected.
- b. **Correct.** Integrity is not a primary principle of the Fair Information Practice code. Integrity is the quality of being honest and having strong moral principles.
- c. Incorrect. Enforcement is a primary principle of the Fair Information Practice code. Enforcement is about making sure that privacy policies are enforced.
- d. Incorrect. Choice is a primary principle of the Fair Information Practice code. Choice is about people being able to choose how their personal information is used, both for the immediate business purpose and in the future.

**54. Solution: d**

- a. Incorrect. The acquisition of hardware and software is an organizational- and departmental-level responsibility.
- b. Incorrect. Taking equipment inventories is an organizational-level responsibility.
- c. Incorrect. Strategic planning is done at the organizational and departmental levels.
- d. **Correct.** The individual user is usually responsible for physical security of the equipment.

**55. Solution: b**

- a. Incorrect. Librarians can assist in data processing operations.
- b. **Correct.** In the separation of duties, programmers should not be able to input data. If they did, they could modify programs and then input the data for their own benefit.
- c. Incorrect. A separate information officer outside of the accounting function would not be as critical as that separation between computer programmers and operators.
- d. Incorrect. Programmers usually handle all types of programs.

**56. Solution: b**

- a. Incorrect. Developing an information security policy for the organization is an appropriate function for the information security officer.
- b. **Correct.** The information security officer should not know user passwords.
- c. Incorrect. Commenting on security controls in new applications is an appropriate duty of the information security officer.
- d. Incorrect. Monitoring and investigating unsuccessful access attempts is an appropriate duty of the information security officer.

**57. Solution: c**

- a. Incorrect. Attempting to break into a system by guessing passwords is a brute force attack.
- b. Incorrect. A trojan horse is software that appears to be legitimate but instead is malicious.
- c. **Correct.** A DOS attack floods a system with requests to the point that the system is unable to function normally.
- d. Incorrect. Phishing is a high-tech scam that deceives people into disclosing sensitive personal information.

**58. Solution: a**

- a. **Correct.** Saving documents or data online is using the cloud.
- b. Incorrect. A company file server is not part of the cloud.
- c. Incorrect. Sending a file via email is not storing data on the cloud.
- d. Incorrect. Reading pages on the Internet does not involve storing data on the cloud.

**59. Solution: d** (CISA adapted)

- a. Incorrect. The lack of separation of duties can be offset by compensating controls.
- b. Incorrect. Of the possible answers, weak passwords would be a lesser concern.
- c. Incorrect. Because the business continuity plans are noncritical, this would not be considered a serious threat to the organization.
- d. **Correct.** The network server not being backed up regularly is the most significant threat to data integrity and availability.

**60. Solution: a**

- a. **Correct.** A worm is able to travel independently through systems, unlike a virus.
- b. Incorrect. A virus self-replicates and attaches itself to files during execution.
- c. Incorrect. Back doors are created by malicious programmers to access a system at a later time.
- d. Incorrect. A Trojan horse can be dormant until triggered by a particular date or time.

**61. Solution: a**

- a. **Correct.** The logical starting point is to determine the point(s) of control. Evidence of license compliance can then be assessed.
- b. Incorrect. Before taking this step, the auditor should first determine whether installation is controlled centrally.
- c. Incorrect. This procedure helps an auditor determine whether software was legitimately purchased.
- d. Incorrect. Monitoring usage is not as important as determining installation procedures when evaluating licensing compliance.

**62. Solution: a**

- a. **Correct.** Checking the accuracy and reliability of accounting data is a control procedure, not an objective.
- b. Incorrect. Promoting effectiveness and efficiency of operations is a control objective.
- c. Incorrect. Assuring compliance with all laws and regulations is a control objective.
- d. Incorrect. Safeguarding assets is a control objective.

**63. Solution: c**

- a. Incorrect. Parallel operation is running the old and new systems concurrently.
- b. Incorrect. A pilot conversion is testing the new application in one department or worksite before full implementation.
- c. **Correct.** Upgrading the old system is simply improving the existing system.
- d. Incorrect. Plunge conversion is changing from the old system to the new system all at once.

**64. Solution: b**

- a. Incorrect. Parallel conversion is the least risky conversion method.
- b. **Correct.** Parallel conversion is the least risky, but it consumes considerable resources to run two fully operational systems at the same time.
- c. Incorrect. Plunge or direct conversion is the riskiest conversion method.
- d. Incorrect. Parallel conversion is the least risky conversion method.

**65. Solution: d**

- a. Incorrect. This is an advantage of prototyping.
- b. Incorrect. This is an advantage of prototyping.
- c. Incorrect. This is an advantage of prototyping.
- d. **Correct.** Prototyping can be expensive because the endpoint may not always be clear and there is a risk that the feedback might never be finished as users continue to request changes.

**66. Solution: c**

- a. Incorrect. Being able to develop a system in a shorter timeframe is a benefit.
- b. Incorrect. Increased reusability of system components is a benefit.
- c. **Correct.** Highly specialized and skilled developers might not be available, so this is a drawback, not a benefit.
- d. Incorrect. Being able to develop software while there is a market for it is a benefit.

**67. Solution: c**

- a. Incorrect. The purpose of database reviews is to determine if: (1) users have gained access to database areas for which they have no authorization, or (2) authorized users can access the database using programs that provide them with unauthorized privileges to view and/or change information.
- b. Incorrect. The purpose of compliance reviews is to determine whether an organization has complied with applicable internal and external procedures and regulations.
- c. **Correct.** Change control is the process of strictly controlling changes to a system or program. All changes should require authorization by the appropriate personnel, and when a system or program is changed, the changes should not be made to the program that is being used, but rather to a copy. Any changes must also be properly reflected in all of the related documentation to ensure that changes have a minimal impact on processing and results in minimal risk to the system.
- d. Incorrect. The purpose of network security software is to provide logical controls over the network.

**68. Solution: b**

- a. Incorrect. Database integrity means that the data elements are consistent with one another.
- b. **Correct.** In a database, the data for diverse applications are standardized, centralized, and integrated. To say that a database has integrity means that these data elements are consistent with one another.
- c. Incorrect. Database integrity means that the data elements are consistent with one another.
- d. Incorrect. Database integrity means that the data elements are consistent with one another.

**69. Solution: d**

- a. Incorrect. Providing backup and data recovery is a function of DBMS.
- b. Incorrect. Improving data consistency is a function of DBMS.
- c. Incorrect. Minimizing data redundancy is a function of DBMS.
- d. **Correct.** Serving as an interface between users and the database describes what a DBMS is. It does not describe its function.

**70. Solution: b**

- a. Incorrect. A Data Definition Language (DDL) is the language that performs all of the operations in defining the structure of a database.
- b. **Correct.** A schema is the map or plan of the entire database.
- c. Incorrect. A Data Manipulation Language (DML) is a computer programming language used for adding (inserting), deleting, and modifying (updating) data in a database.
- d. Incorrect. Structured Query Language (SQL) allows users to query the database.

**71. Solution: a**

- a. **Correct.** A Data Manipulation Language (DML) is a computer programming language used for adding (inserting), deleting, and modifying (updating) data in a database.
- b. Incorrect. A Data Definition Language (DDL) is the language that performs all of the operations in defining the structure of a database.
- c. Incorrect. Query Language a language for the specification of procedures for the retrieval (and sometimes also modification) of information from a database.
- d. Incorrect. A Graphic User Interface (GUI) is a form of user interface that allows users to interact with electronic devices through graphical icons and visual output instead of text-based user interfaces, typed command labels, or text navigation.

**72. Solution: c**

- a. Incorrect. This would be an advantage for Franklin because it would enable Franklin to gain a better understanding of the inventory needs of Mega.
- b. Incorrect. This would be an advantage that Franklin would get from this arrangement.
- c. **Correct.** In order to implement the EDI, Franklin may have to make changes to other systems within their company. This would be a cost to Franklin and would need to be weighed against the benefits of implementing the EDI system.
- d. Incorrect. Because of EDI, Franklin would get paid faster, which is an advantage for Franklin.

**73. Solution: b**

- a. Incorrect. A CRM system tracks customer information, such as purchases, returns, etc.
- b. **Correct.** Customer profitability analysis is able to calculate customer profitability.
- c. Incorrect. A CRM system is able to let customers know when their goods have been shipped.
- d. Incorrect. A CRM system is able to provide reminders if a customer's invoice is not paid.

**74. Solution: c**

- a. Incorrect. https:// is the protocol for securely transmitting data between a web browser and a server.
- b. Incorrect. A URL (or domain name) is the address of a page on the web.
- c. **Correct.** TCP/IP is a set of protocols used on the Internet, intranets, and extranets.
- d. Incorrect. www is the abbreviation for World Wide Web, which is a connection online content in HTML accessed via http.

**75. Solution: b**

- a. Incorrect. ERP does not do strategizing or marketing campaigns.
- b. **Correct.** The primary benefits of ERP systems include forecasting, production planning, material purchasing, material management, warehousing, inventory, and distribution.
- c. Incorrect. ERP does not do resource and capacity constraint modeling or marketing campaigns.
- d. Incorrect. Only answer (b) is correct.

**76. Solution: a**

- a. **Correct.** A benefit of a GRC system is to eliminate/minimize a silo effect, not promote it.
- b. Incorrect. More optimal IT investments is a benefit of a GRC system.
- c. Incorrect. Reduced fragmentation among divisions and departments is a benefit of a GRC system.
- d. Incorrect. Improved decision-making is a benefit of a GRC system.

**77. Solution: c**

- a. Incorrect. Cost is a disadvantage of a client/server network.
- b. Incorrect. Needing specialized staff, such as a network manager, is a disadvantage of a client/server.
- c. **Correct.** Controlling resources and data security through the server is an advantage, not a disadvantage.
- d. Incorrect. System maintenance is more difficult in a client/server system.

**78. Solution: d**

- a. Incorrect. This is not related to the goals cascade.
- b. Incorrect. This is not related to the goals cascade.
- c. Incorrect. This is not related to the goals cascade.
- d. **Correct.** COBIT 5 includes a goals cascade that can help prioritize the stakeholders' needs.

**79. Solution: b**

- a. Incorrect. Identifying information security requirements is the first step of ISO 27000.
- b. **Correct.** Management determines the organization's IS risk appetite, not ISO 27000.
- c. Incorrect. Assessing and treating information security risk is the second step of ISO 27000.
- d. Incorrect. Continuous improvement is the fourth step of ISO 27000.

**80. Solution: d**

- a. Incorrect. The absence of processing interruptions indicates nothing about the interruptions that might occur in the future, especially those that are not under the organization's control.
- b. Incorrect. A contingency plan may have comprehensive documentation, but until the plan is tested, an organization has no way to know if the plan will be effective.
- c. Incorrect. Audit signoff is one indicator of plan quality, but until the plan is tested, an organization has no way to know if the plan will be effective.
- d. **Correct.** The only way to know about the effectiveness of a plan is to test it.

**81. Solution: b**

- a. Incorrect. A "hot site" has all needed assets in place and is not vendor-dependent.
- b. **Correct.** A "cold site" has all needed assets in place except the needed computer equipment. Therefore, the "cold site" is vendor-dependent for timely delivery of equipment.
- c. Incorrect. A "cold site" is vendor-dependent for the delivery of equipment.
- d. Incorrect. Excess capacity would ensure that needed assets are available and would not be vendor-dependent.

**82. Solution: a**

- a. **Correct.** Expenses should be associated with the revenues that they are intended to help. Because the catalogs will be used in year 2, the cost of the catalogs should be expensed in year 2, not year 1. Therefore, the costs should be deferred and matched with the revenue of year 2.
- b. Incorrect. The revenue recognition principle is used to determine in which period revenue will be recognized.
- c. Incorrect. The reliability principle means that the financial data is error-free and faithfully represented.
- d. Incorrect. The cost principle is the basic principle for recording most assets and liabilities.

**83. Solution: a**

- a. **Correct.** Information is relevant if it influences economic decisions by helping users to evaluate past, present, or future events. Relevance is affected by the materiality and nature of an item.
- b. Incorrect. Understandability is where an individual with some understanding of business should be able to read and comprehend the presented financial information.
- c. Incorrect. Reliable means that the information in the financial statements is able to be believed and trusted.
- d. Incorrect. Comparability means that for financial information to be useful, it needs to be compared with something, such as financial information from past periods, industry averages, or competitors.

### 84. Solution: b

- a. Incorrect. The matching principle is properly matching revenues and expenses in the same accounting period.
- b. **Correct.** All assets and liabilities are recorded at their historical cost, which is the cost that was paid when the company originally acquired the asset or liability. Thus, the value of the parking and storage facility is 150,000.
- c. Incorrect. All assets and liabilities are recorded at their historical cost. The going concern assumption is that the entity will continue to exist indefinitely.
- d. Incorrect. All assets and liabilities are recorded at their historical cost. Revenue recognition refers to when revenue is recognized in the accounting books. Revenue is recognized when it is earned and some exchange has taken place.

### 85. Solution: d

- a. Incorrect. This is not an example of a discontinued operation.
- b. Incorrect. This is not an example of a discontinued operation.
- c. Incorrect. This is not an example of a discontinued operation.
- d. **Correct.** To be classified as discontinued, the operation has to be significant and identifiable. If the multinational sells its restaurant business that includes 100 restaurants, then this would seem to be a discontinued operation because it is both significant and identifiable.

### 86. Solution: c

- a. Incorrect. See the correct answer for the complete explanation.
- b. Incorrect. See the correct answer for the complete explanation.
- c. **Correct.** The Accounts Receivable beginning balance is 10,000. Net credit sales of 200,000 would have increased it by 200,000, and the receivables written off would have decreased it by 2,000. We do not yet know what collections were or what the ending balance was. The Allowance for Bad Debts beginning balance is a credit (1,000). Bad debt expense of 4,000 would be a credit to the account, increasing it; and the receivables written off would be a debit to the account, decreasing it by 2,000. Thus, the ending balance in the Allowance for Bad Debts would be (3,000). We know that Net Accounts Receivable (Gross Accounts Receivable minus the Allowance for Bad Debts) increased by 60,000 during the period. The beginning net accounts receivable balance was 10,000 minus 1,000, or 9,000. Therefore, the ending net accounts receivable balance would be 9,000 + 60,000, or 69,000. We also know the ending balance of the Allowance for Bad Debts account was (3,000). Therefore, the ending Gross Accounts Receivable balance must be 72,000 (69,000 ending net accounts receivable plus the ending balance of the allowance account of 3,000). Therefore, we have all the information we need to calculate the amount of cash collected from accounts receivable: Beginning accounts receivable of 10,000 + 200,000 net credit sales minus 2,000 written minus 72,000 ending accounts receivable = 136,000 collected during the month.
- d. Incorrect. The answer of 140,000 was found by simply subtracting net credit sales from the net increase in receivables (200,000 – 60,000).

### 87. Solution: b

- a. Incorrect. LIFO would yield the lowest net profit, but it is no longer an acceptable inventory costing method under IFRS.
- b. **Correct.** The FIFO method will produce the lowest cost of goods sold, which will result in the highest net profit (assuming all other variables remain constant).
- c. Incorrect. Weighted average will average the cost of inventory and therefore will not result in the highest net profit.
- d. Incorrect. Specific identification identifies the exact items that are sold to match them with their specific cost. Thus, it will not necessarily result in the highest net profit.



**88. Solution: d**

- a. Incorrect. See the correct answer.
- b. Incorrect. See the correct answer.
- c. Incorrect. See the correct answer.
- d. **Correct.** If we know the gross margin percentage in 2014 is 30%, then we can easily put in some nominal values. If sales are 100, then COGS is 70. This means by 2018, sales are 145 ( $100 \times 145\%$ ), and COGS is 105 ( $70 \times 150\%$ ). Thus, gross margin is 40, or 27.6% of sales ( $40 \div 145$ ).

**89. Solution: d**

- a. Incorrect. The inventory turnover ratio shows the number of times inventory is bought and sold. It does not indicate whether a company has a potential leverage problem.
- b. Incorrect. The inventory turnover ratio does not indicate whether a company is able to pay its short-term obligations.
- c. Incorrect. The inventory turnover ratio is not an indication of profitability, although holding inventory that cannot be sold would lessen profitability.
- d. **Correct.** The inventory turnover ratio shows the number of times inventory is bought and sold during the year. A low ratio (compared with industry average) could indicate that the company is holding inventory that it is unable to sell. Writing down inventory could affect profitability.

**90. Solution: b**

- a. Incorrect. See correct answer.
- b. **Correct.** In this case, because the cash flow is in perpetuity, divide \$30,000 by 12%. The PV of the cash flow for perpetuity is \$250,000, so the NPV is \$20,000 ( $\$250,000 - \$230,000$ ).
- c. Incorrect. See correct answer.
- d. Incorrect. See correct answer.

**91. Solution: b**

- a. Incorrect. The market price is 320, plus the transportation cost of 50. Thus, the total market-base transfer price is 370 ( $320 + 50$ ).
- b. **Correct.** This is an example of cost-based transfer pricing. Using this method, the transfer price is 290 ( $150 + 50 + 40 + 50$ ).
- c. Incorrect. Negotiations did not take place. The CEO selected the transfer price.
- d. Incorrect. The cost-plus transfer price would be 348 ( $290 \times 1.20$ ).

**92. Solution: b**

- a. Incorrect. A company that takes its budgeting process seriously should expect better coordination and communication among the business units and activities.
- b. **Correct.** The managers of the company would have little control over the costs of its inputs, which would most likely be set by the market.
- c. Incorrect. A company that takes its budgeting process seriously should expect a more efficient allocation of resources.
- d. Incorrect. A company that takes its budgeting process seriously should expect more motivated managers and employees.

**93. Solution: c**

- a. Incorrect. Absorption costing includes direct material, direct labor, and factory overhead costs as production costs.
- b. Incorrect. Activity-based costing involves using multiple cost pools and multiple cost drivers to allocate overhead on the basis of cost drivers specific to each cost pool.
- c. **Correct.** Life-cycle costing takes a longer view to the cost of production and attempts to allocate the entire R&D, marketing, developing, after-sale service costs and any other cost that is associated with the product during its life-cycle.
- d. Incorrect. Under variable costing (also called direct costing), fixed factory overheads are reported as period costs and are expensed in the period in which they are incurred.

**94. Solution: b**

- a. Incorrect. See the correct answer (b).
- b. **Correct.** Absorption-costing operating profit will exceed variable-costing operating income because production exceeds sales, resulting in a deferral of fixed manufacturing overhead in the inventory calculated using the absorption method. The difference of \$225,000 is equal to the fixed manufacturing overhead per unit ( $\$2,250,000 \div 250,000 = \$9.00$ ) times the difference between production and sales ( $250,000 - 225,000 = 25,000$ , which is the inventory change in units). Thus,  $25,000 \times \$9.00 = \$225,000$ .
- c. Incorrect. See the correct answer (b).
- d. Incorrect. See the correct answer (b).

**95. Solution: d**

- a. Incorrect. A cost center has only costs. Therefore, ROA could not be used to evaluate management performance.
- b. Incorrect. A cost center has only costs. Therefore, ROI could not be used to evaluate management performance.
- c. Incorrect. A cost center has only costs. Therefore, using the payback method would be inappropriate to evaluate management performance.
- d. **Correct.** A cost center has only costs and therefore variance analysis is the only technique that can be used to evaluate a cost center. Variance analysis involves comparing actual costs with budgeted or standard costs.

**96. Solution: a**

- a. **Correct.** An absorption costing system includes all direct manufacturing and both fixed and variable overhead costs.
- b. Incorrect. An activity-based costing system allocates overhead costs based on the drivers of the activities.
- c. Incorrect. In a backflush costing system, costs are accumulated during the period and then distributed when goods are either finished or sold.
- d. Incorrect. A variable costing system excludes fixed manufacturing overhead costs. Fixed costs are treated as period costs.

**97. Solution: c**

- a. Incorrect. Life-cycle costing would typically be used when a product has high R&D or other non-production costs associated with it. Life-cycle costing would not be appropriate for a homogenous product such as barbed wire.
- b. Incorrect. A job-order system is used when the customer's products or services differ from one customer to the next. Each job is a separate cost center.
- c. **Correct.** A process costing system is used when a company mass-produces a product on a continuous basis. The production department becomes the cost center.
- d. Incorrect. Variable costing is not part of GAAP and is used only for decision-making.

**98. Solution: c**

- a. Incorrect. 5.00 is incorrect. This price would only cover the purchase price (4.95), but not the variable selling and administrative expenses (2.00 and 1.00).
- b. Incorrect. 7.00 is incorrect. This price would cover the purchase price and variable selling expense (4.95 + 2.00), but it would not cover the variable administrative expense.
- c. **Correct.** Using the contribution approach to pricing, the relevant costs include only variable costs. Fixed cost is a sunk cost and is not relevant in the short run. The lowest feasible price is the price that provides a zero-contribution margin (revenue – variable costs). Thus, the lowest price that can be charged in the short run is 7.95 (4.95 + 2.00 + 1.00). 8.00 is the closest answer above 7.95, so it is the correct answer.
- d. Incorrect. 9.50 is incorrect. Besides the variable expenses, this price would also cover fixed costs of 1.50 (7,500 ÷ 5,000). Fixed costs are sunk costs and are not relevant.

**99. Solution: a**

- a. **Correct.** The maximum that Axles R Us would pay is the sum of all of the costs that would be avoided if they were not producing the axles themselves, which are the variable manufacturing costs (300 + 50 + 100 = 450). In addition, fixed costs would be reduced by 30%, or 120 (400 × 30%). In total, the company would reduce its costs by 570 (450 + 120), which is also the maximum that they should be willing to pay the supplier.
- b. Incorrect. See the correct answer for full explanation.
- c. Incorrect. See the correct answer for full explanation.
- d. Incorrect. See the correct answer for full explanation.

**100. Solution: c**

- a. Incorrect. See the correct answer for full explanation.
- b. Incorrect. See the correct answer for full explanation.
- c. **Correct.** The breakeven point in unit sales equals total fixed costs divided by the unit contribution margin.  
  
Contribution margin is 4,950,000 (9,000,000 – 1,800,000 – 720,000 – 1,080,000 – 450,000) and per unit it is 33.00 (4,950,000 ÷ 150,000).  
  
Total fixed costs are 1,520,640 (600,000 + 567,840 + 352,800).  
  
Therefore, breakeven point in unit sales for the year is 46,080 (1,520,640 ÷ 33).
- d. Incorrect. See the correct answer for full explanation.