

# SOLUTIONS MANUAL

## INFORMATION TECHNOLOGY AUDITING and ASSURANCE 2<sup>nd</sup> Edition



Software Included

HALL  
SINGLETON



# CHAPTER 1

## Auditing, Assurance, and Internal Control

### REVIEW QUESTIONS

1. What is the purpose of an IT audit?

Response: The purpose of an IT audit is to provide an independent assessment of some technology- or systems-related object, such as proper IT implementation, or controls over computer resources. Because most modern accounting information systems use IT, IT plays a significant role in a financial (external) audit, where the purpose is to determine the fairness and accuracy of the financial statements.

2. Discuss the concept of independence within the context of a financial audit. How is independence different for internal auditors?

Response: The auditor cannot be an advocate of the client, but must attest to whether GAAP and other appropriate guidelines have been adequately met. Independence for internal auditors is different because they are employed by the organization, and cannot be as independent as the external auditor. Thus internal auditors must use professional judgment and independent minds in performing IA activities.

3. What are the conceptual phases of an audit? How do they differ between general auditing and IT auditing?

Response: The three conceptual phases of auditing are (a) familiarization with the organization's business, (b) evaluating internal controls, and (c) analyzing financial data. Conceptually, no difference exists between IT auditing and general auditing. IT auditing is typically a subset of the overall audit; the portion that involves computer technology is the subset.

4. Distinguish between the internal and external auditors.

Response: External auditors represent the interests of third-party stakeholders in the organization, such as stockholders, creditors, and government agencies. External auditing is conducted by certified public accountants who are independent of the organization's management. Internal auditors represent the interests of management. Internal auditing tasks include conducting financial audits, examining an operation's compliance with legal obligations, evaluating operational efficiency, detecting and pursuing fraud within the firm, and conducting IT audits. External auditors also conduct IT audits.

5. What are the four primary elements described in the definition of auditing?

Response:

- a. systematic process
- b. obtaining evidence
- c. ascertaining the degree of correspondence with established criteria
- d. communicating results

6. Explain the concept of materiality.

Response: Materiality refers to the size of the effect of a transaction. From a cost-benefit point of view, a threshold is set above which the auditor is concerned with the correct recording and effects of transactions. Rather than using standard formulas, auditors use their professional judgment to determine materiality.

7. How does the Sarbanes-Oxley Act of 2002 affect management's responsibility for internal controls?

Response: The Sarbanes-Oxley Act (S-OX) specifically holds management responsible for internal controls. S-OX requires an annual report on internal controls that is the responsibility of management; external auditors must attest to the integrity of the report. Management must assess the effectiveness of the internal control structure and procedures for financial reporting as of the end of the most recent fiscal year and identify any control weaknesses. An attestation by external auditors reports on management's assessment statement.

8. What are the four broad objectives of internal control?

Response:

- a. to safeguard the assets of the firm
- b. to ensure the accuracy and reliability of accounting records and information
- c. to promote efficiency in the firm's operations
- d. to measure compliance with management's prescribed policies and procedures

9. What are the four modifying assumptions that guide designers and auditors of internal control systems?

Response: Management responsibility, reasonable assurance, methods of data processing, and limitations.

10. Give an example of a preventive control.

Response: Locked doors, passwords, and data-entry controls for each field (e.g., range checks).

11. Give an example of a detective control.

Response: A log of users, a comparison with computer totals and batch totals.

12. Give an example of a corrective control.

Response: Manual procedures to correct a batch that is not accepted because of an incorrect social security number. A clerical worker would need to investigate and determine either the correct hash total or the correct social security number that should be entered. A responsible party is then needed to read exception reports and follow up on anomalies.

13. What is the objective of SAS No. 78?

Response: The objective of SAS No. 78 is to define and specify internal control objectives and techniques.

14. What are the five internal control components described in the *Statement on Auditing Standards No. 78*?

Response:

- a. authorizations
  - b. segregation of functions
  - c. accounting records
  - d. access controls
  - e. independent verification
15. What are the four broad classes of control activities defined by SAS No. 78?

Response: Performance activities, information processing, physical controls, and segregation of duties.

16. How do automated authorization procedures differ from manual authorization procedures?

Response: In a manual authorization system, management and auditors can verify compliance with established authorization rules by observing the employees involved and reviewing their work (e.g., visually and physically verifying proper signature on an authorization document). In an automated authorization system, the authorization is unobserved by management and control failure may go unnoticed until the firm experiences some undesirable symptoms (because the authorization process is embedded in programming code and is executed automatically).

17. Explain why certain duties that are deemed incompatible in a manual system may be combined in an IT environment. Give an example.

Response: In an IT environment it would be inefficient and contrary to the objectives of automation to separate such tasks as processing and recording a transaction among several different application programs merely to emulate a manual control model. Further, the reason for separating tasks is to control against the negative behavior of humans; in an IT environment, the computer performs the tasks, not humans.

18. Explain how the audit trail differs between a manual system and a computer system.

Response: In a manual system, the audit trail is in the form of source documents, journals, and ledgers. In some computer systems, no physical source documents exist. Magnetic storage devices are used for storing source documents and ledger accounts. Journal entries are stored as records in databases and journals. In the traditional sense, audit trails do not exist in the computer system. The audit trail consists of links between these magnetically stored records or in specially designed logs.

19. What risks do data consolidation in an IT environment pose?

Response: Computer fraud and losses from disaster in an IT environment.

20. Give some examples of independent verifications in an IT environment.

Response:

- a. the reconciliation of batch totals at periodic points during transaction processing
- b. the comparison of physical assets with accounting records
- c. the reconciliation of subsidiary accounts with control accounts
- d. reviews by management of reports that summarize business activity

- e. periodic audits by independent external auditors
- f. periodic audits by internal auditors

21. Differentiate between general and application controls. Give two examples of each.

Response: General controls apply to a wide range of exposures that systematically threaten the integrity of all applications processed within the IT environment. Some examples of general controls would be controls against viruses and controls to protect the hardware from vandalism. Application controls are narrowly focused on risks within specific systems. Some examples of application controls would be a control to make sure that each employee receives only one paycheck per pay period and a control to ensure that each invoice gets paid only once.

22. Distinguish between tests of controls and substantive testing.

Response: The tests of controls phase involves determining whether internal controls are in place *and* whether they function properly. The substantive testing phase involves a detailed investigation of specific account balances and transactions.

23. Define audit risk.

Response: Audit risk is the probability that the auditor will render an unqualified (clean) opinion on financial statements that are, in fact, materially misstated.

24. Distinguish between errors and irregularities. Which do you think concern auditors the most?

Response: Errors are unintentional mistakes whereas irregularities are intentional misrepresentations to perpetrate a fraud or mislead the users of financial statements. Errors are a concern if they are numerous or sizable enough to cause the financial statements to be materially misstated. All processes that involve human actions are highly susceptible to some amount of human error. Computer processes should contain errors only if the programs are erroneous, if systems operating procedures are not being closely and competently followed, or if some unusual system malfunction has corrupted data. Errors are typically much easier to uncover than misrepresentations. Thus auditors typically are more concerned about whether they have uncovered any and all irregularities. Also, due to SAS No. 99 and Sarbanes-Oxley, auditors are much more concerned with fraud (irregularities) than before.

25. Distinguish between inherent risk and control risk. How do internal controls affect inherent risk and control risk, if at all? What is the role of detection risk?

Response: Inherent risk is associated with the unique characteristics of the business or industry of the client. Firms in declining industries are considered to have more inherent risk than firms in stable or thriving industries. Control risk is the likelihood that the control structure is flawed because internal controls are either absent or inadequate to prevent or detect errors in the accounts. Strong internal controls may be present in firms with inherent risk, yet the financial statements may be materially misstated due to circumstances outside the control of the firm, such as a significant customer with unpaid bills on the verge of bankruptcy. Internal controls basically do not affect inherent risk. Internal control does, however, directly impact control risk. The more effective the internal controls that are in place, the lower the level of assessed control risk. Detection risk is the risk, which auditors are willing to accept, that errors are not detected or prevented by the control structure. Typically, detection risk will be lower for firms with higher inherent risk and control risk.

26. What is the relationship between tests of controls and substantive tests?

Response: The relationship between tests of controls and substantive tests is directly related to the auditor's risk assessment. The stronger the internal controls, the less substantive testing the auditor must do.

## DISCUSSION QUESTIONS

1. Discuss the differences between the attest function and assurance services.

Response: The attest service is defined as an engagement in which a practitioner is engaged to issue, or does issue, a written communication that expresses a conclusion about the reliability of a written assertion that is the responsibility of another party. The following requirements apply to attestation services:

- Attestation services require written assertions and a practitioner's written report.
- Attestation services require the formal establishment of measurement criteria or their description in the presentation.
- The levels of service in attestation engagements are limited to examination, review, and application of agreed-upon procedures.

Assurance services constitute a broader concept that encompasses, but is not limited to, attestation. Assurance services are professional services that are designed to improve the quality of information, both financial and nonfinancial, used by decision makers. Assurance services are intended to help people make better decisions by improving information. This information may come as a by-product of the attest function or it may ensue from an independently motivated review.

2. A CPA firm has many clients. For some of its clients, it relies very heavily on the work of the internal auditors, while for others it does not. The amount of reliance affects the fees charged. How can the CPA firm justify the apparent inconsistency of fees charged in a competitive marketplace?

Response: The CPA firm's reliance on the work of the internal auditors depends on the structure of the organization and to whom the internal auditors report. If they do not report directly to the board of directors, then their positions may be compromised. Further, the quality and type of work conducted by the internal auditors will affect external auditors' reliance.

3. Accounting firms are very concerned that their employees have excellent communication skills, both oral and written. Explain why this requirement is so important by giving examples of where these skills would be necessary in each of the three phases of an audit.

Response: During the planning phase of an audit, oral communication skills are used in interviews. Written communication skills are needed for recording the results of interviews and during observation and systems documentation reviews. In the tests of controls and substantive testing phases, oral communication skills are important when working with the client's employees. Written communication skills are then vital in summarizing the results of tests.

4. Discuss how the process of obtaining IT audit evidence is inherently different than it is in a manual system.

Response: In the IT environment, the data needed to perform audit tests are contained in computer files that must be extracted using specialized audit software.

5. Explain the audit objectives of existence or occurrence, completeness, rights and obligations, valuation or allocation, and presentation and disclosure.

Response:

- The **existence or occurrence** assertion affirms that all assets and equities contained in the balance sheet exist and that all transactions in the income statement actually occurred.
- The **completeness** assertion declares that no material assets, equities, or transactions have been omitted from the financial statements.
- The **rights and obligations** assertion maintains that assets appearing on the balance sheet are owned by the entity and that the liabilities reported are obligations.
- The **valuation or allocation** assertion states that assets and equities are valued in accordance with generally accepted accounting principles and that allocated amounts such as depreciation expense are calculated on a systematic and rational basis.
- The **presentation and disclosure** assertion alleges that financial statement items are correctly classified (e.g., long-term liabilities will not mature within one year) and that footnote disclosures are adequate to avoid misleading the users of financial statements.

6. How has the Foreign Corrupt Practices Act of 1977 had a significant impact on organization management?

Response: The FCPA of 1977 requires that all companies registered with the Securities and Exchange Commission maintain an appropriate system of internal controls. Internal controls typically directly impact the organizational structure and segregation of functions.

7. Discuss the concept of exposure and explain why firms may tolerate some exposure.

Response: An exposure is the absence or weakness of an internal control. Sometimes cost-benefit analysis may indicate that the additional benefits of an internal control procedure may not exceed the costs. Thus, the firm may decide to tolerate some control risk associated with a particular exposure.

8. If detective controls signal errors, why shouldn't they automatically make a correction to the identified error? Why are separate corrective controls necessary?

Response: For any detected error, more than one feasible corrective solution may exist, and the best course of action may not always be obvious. Thus, linking an automatic response to a detective control may worsen a problem by applying an inappropriate corrective action.

9. Most accounting firms allow married employees to work for the firm. However, they do not allow an employee to remain working for them if he or she marries an employee of one of their auditing clients. Why do you think this policy exists?

Response: The accounting firm must retain its independence from its clients. The auditor must not have the opportunity to collude, in any fashion, with any employees of its client. Having one spouse working for the client and the other working for the accounting firm would compromise the independence of the accounting firm.

10. Discuss whether a firm with fewer employees than there are incompatible tasks should rely more heavily on general authority than specific authority.

Response: Small firms with fewer employees than there are incompatible tasks should rely more heavily on specific authority. More approvals of decision by management and increased

supervision should be imposed in order to compensate some for the lack of separation of duties.

11. An organization's internal audit department is usually considered to be an effective control mechanism for evaluating the organization's internal structure. The Birch Company's internal auditing function reports directly to the controller. Comment on the effectiveness of this organizational structure.

Response: Having the internal auditing function report to the controller is unacceptable. If the controller is aware of/or involved in a fraud or defalcation, then he/she may give false or inaccurate information to the auditors. The possibility that the auditors may lose their jobs if they do not keep certain matters quiet also exists. Further, the fraud may be occurring at a level higher than the controller, and the controller may fear losing his/her job if the matter is pursued. The best route is to have the internal auditing function report directly to the audit committee.

12. According to SAS No. 78, the proper segregation of functions is an effective internal control procedure. Comment on the exposure (if any) caused by combining the tasks of paycheck preparation and distribution to employees.

Response: If a payroll employee were to prepare a paycheck for a nonexistent employee (perhaps under an alias or in the name of a relative), which is known as "ghost employee" fraud, and this employee also has the task of distributing the checks, then no one would be the wiser. On the other hand, if the checks go directly to another person, who then distributes the paychecks, the extra check should be discovered.

13. Explain whether authorizations are necessary in a computer environment.

Response: Yes, authorizations are necessary in a computer environment. Passwords may be one form of authorization for access. Other types of database authorization access schemes may be employed, and sometimes the authorizations are embedded in the programs. These authorization structures are crucial for remote access such as telecommuting environments.

14. Explain how an IT environment affects the segregation of functions.

Response: Separating computer processing **functions** serves no purpose because programs do not compromise integrity, only humans do. On the other hand, separating duties of employees, such as the tasks of program coding, program processing, and program maintenance, is crucial.

15. Explain how an IT environment affects supervision.

Response: In an IT environment, supervision becomes more important and elaborate. One reason is that qualified and competent employees are difficult to attract and retain due to the complex technological environment and its rapidly changing nature. So, management often has difficulty assessing the competency levels of the employees. Also, management needs to be concerned about the ethical and moral values of data processing personnel. Unfortunately, the data processing profession sometimes attracts individuals who enjoy the challenge of circumventing controls. Lastly, the remote locations in which some data professionals operate cause management to be unable to adequately observe these employees. Thus, additional supervisory controls should be added due to the lack of adequate *direct* supervision.



16. Explain how an IT environment affects the firm's obligation to maintain adequate accounting records.

Response: In an IT environment, much of the data is stored electronically and no physical source documents exist. A visible audit trail is not available. Thus, the firm must keep good records of the operational principles of alternative file structures and the DBMS so that the accountants and auditors can readily understand the AIS.

17. Explain how an IT environment affects access control.

Response: In an IT environment, many files of data are centrally housed or stored on server computers rather than physically dispersed in manual file cabinets. Thus, an intruder needs to gain access to only one place—the main data store. Access controls over the main data store, each file level, and the programs should be put in place in order to deter unauthorized entry. Further, these centralized data stores need to be protected against disasters, and a disaster recovery plan should be in place.

18. Explain how an IT environment affects independent verification.

Response: Checks for human clerical errors are greatly reduced in an IT environment; however, review of the logic of programs is crucial. These programs tell the computer what to do; if the logic is not correct, the processing and resulting output will not be accurate.

19. How has the Sarbanes-Oxley Act affected internal controls?

Response: Management is now responsible for reporting on the internal controls 90 days prior to the financial statement date. The external auditors are required to provide assurance of the internal control report. Significant internal control weaknesses must be disclosed in financial reports. Various other aspects of S-OX are intended to strengthen internal control (e.g., audit committee requirements). Altogether, S-OX brings a much higher profile to the importance of internal control, and the effectiveness of each firm's internal control system (for publicly traded companies).

## PROBLEMS

1. **Audit Committee (CMA 6898 3-3)**

Micro Dynamics, a developer of database software packages, is a publicly held company whose stock is traded over the counter. The company recently received an enforcement release proceeding through an SEC administrative law judge that cited the company for inadequate internal controls. In response, Micro Dynamics has agreed to establish an internal audit function and strengthen its audit committee.

A manager of the internal audit department has been hired as a result of the SEC enforcement action to establish an internal audit function. In addition, the composition of the audit committee has been changed to include all outside directors. Micro Dynamics has held its initial planning meeting to discuss the roles of the various participants in the internal control and financial reporting process. Participants at the meeting included the company president, the chief financial officer, a member of the audit committee, a partner from Micro Dynamics' external audit firm, and the newly appointed manager of the internal audit department. Comments by the various meeting participants are presented below.

**President:** "We want to ensure that Micro Dynamics complies with the SEC's enforcement release, and that we don't find ourselves in this position again. The internal audit department should help to strengthen our internal control system by correcting the problems. I would like

your thoughts on the proper reporting relationship for the manager of the internal audit department.”

**CFO:** “I think the manager of the internal audit department should report to me since much of the department’s work is related to financial issues. The audit committee should have oversight responsibilities.”

**Audit committee member:** “I believe we should think through our roles more carefully. The Treadway Commission has recommended that the audit committee play a more important role in the financial reporting process; the duties of today’s audit committee have expanded beyond the rubber-stamp approval. We need to have greater assurance that controls are in place and being followed.”

**External audit firm partner:** “We need a close working relationship among all of our roles. The internal audit department can play a significant role in monitoring the control systems on a continuing basis and should have strong ties to your external audit firm.”

**Internal audit department manager:** “The internal audit department should be more involved in operational auditing, but it also should play a significant monitoring role in the financial reporting area.”

**Required:**

- a. Describe the role of each of the following in the establishment, maintenance, and evaluation of Micro Dynamics’ system of internal control.
  - i. Management
  - ii. Audit committee
  - iii. External auditor
  - iv. Internal audit department
- b. Describe the responsibilities that Micro Dynamics’ audit committee has in the financial reporting process.

**Response:**

- a.
  - i. Management has the overall responsibility for protecting company assets and, therefore, for establishing, maintaining, and evaluating the internal control system.
  - ii. The audit committee’s primary responsibility involves assisting the board of directors in carrying out its responsibilities as they relate to the organization’s accounting policies, internal control, and financial reporting practices. The audit committee assists management and the board in fulfilling their fiduciary and accountability responsibilities, and it helps maintain a direct line of communication between the board and the external and internal auditors.
  - iii. The external auditor reviews the organization’s control structure, including the control environment, accounting systems, and control procedures, in order to assess the control risks for financial statement assertions. In addition, the external auditor would inform the company of any material weaknesses found during the review.
  - iv. The internal audit department performs both operational and financial audits to determine compliance with established policies and procedures and reports its findings and recommendations to management or the audit committee for evaluation and corrective action. The internal audit department may also assist the external auditors with their review of the internal control system.

- b. The responsibilities of the Micro Dynamics audit committee in the financial reporting process include
- Obtaining assurance that the organization's control system is adequate and effective to identify risk and exposure, and that the financial disclosures made by management reasonably reflect the financial position, results of operations, and changes in cash flow.
  - Reviewing the progress of the audit and the final audit findings.
  - Acting as a liaison between the auditors and the board of directors.

2. **Role of Internal Auditor (CMA 1290 4-Y8)**

Leigh Industries has an internal audit department consisting of a director and four staff auditors. The director of internal audit, Diane Bauer, reports to the corporate controller, who receives copies of all internal audit reports. In addition, copies of all internal audit reports are sent to the audit committee of the board of directors and the individual responsible for the area of activity being audited.

In the past, the company's external auditors have relied on the work of the internal audit department to a substantial degree. However, in recent months, Bauer has become concerned that the objectivity of the internal audit function is being affected by the nonaudit work being performed by the department. This possible loss of objectivity could result in more extensive testing and analysis by the external auditors. The percentage of nonaudit work performed by the internal auditors has steadily increased to about 25 percent of the total hours worked. A sample of five recent nonaudit activities follows.

- One of the internal auditors assisted in the preparation of policy statements on internal control. These statements included such things as policies regarding sensitive payments and the safeguarding of assets.
- Reconciling the bank statements of the corporation each month is a regular assignment of one of the internal auditors. The corporate controller believes this strengthens the internal control function because the internal auditor is not involved in either the receipt or the disbursement of cash.
- The internal auditors are asked to review the annual budget each year for relevance and reasonableness before the budget is approved. At the end of each month, the corporate controller's staff analyzes the variances from budget and prepares explanations of these variances. These variances and explanations are then reviewed by the internal audit staff.
- One of the internal auditors has been involved in the design, installation, and initial operation of a new computerized inventory system. The auditor was primarily concerned with the design and implementation of internal accounting controls and conducted the evaluation of these controls during the test runs.
- The internal auditors are sometimes asked to make the accounting entries for complex transactions as the employees in the accounting department are not adequately trained to handle such transactions. The corporate controller believes this gives an added measure of assurance to the accurate recording of these transactions.

**Required:**

- a. Define objectivity as it relates to the internal audit function.
- b. For each of the five nonaudit activities presented, explain whether the objectivity of Leigh Industries' internal audit department has been materially impaired. Consider each situation independently.

- c. The director of internal audit reports directly to the corporate controller. Does this reporting relationship affect the objectivity of the internal audit department? Explain your answer.
- d. Would your evaluation of the five situations in Question b change if the director of internal audit reported to the audit committee of the board of directors? Explain your answer.

Response:

- a. The internal auditor must have and maintain objectivity, which implies no subordination of judgment to another and arises from an independent mental attitude that views events on a factual basis without influence from feelings, prejudice, opinions, or interests.
  - b.
    - i. The internal auditor's objectivity is not impaired by the preparation of policy statements on internal control. The preparation of policy statements to guide others in the development and implementation of internal controls is a responsibility of the internal audit staff.
    - ii. The internal auditor's objectivity is impaired. In order to maintain objectivity, the auditor should not perform operational assignments that are included as part of the independent evaluation and verification of a proper system of internal control. Separation of duties must be maintained.
    - iii. Objectivity is not impaired in the review of the budget for relevance and reasonableness if the internal auditor has no responsibility for establishing or implementing the budget. However, the review of variances and explanations would impair objectivity as this is an area that would normally be reviewed during an operational audit.
    - iv. Objectivity is impaired to the extent that the internal auditor has been involved in the design and installation of internal accounting controls because there will be little confidence in audit findings issued by the individual who designed and installed the system being audited.
    - v. The preparation of accounting records will materially impair the internal auditor's objectivity by involving the auditor in day-to-day operations.
  - c.
    - i. This reporting relationship adversely affects the objectivity of the internal audit Department. The corporate controller is responsible for the accounting system and related operational transactions. The internal audit staff is responsible for the independent and objective review and examination of the accounting system and related operational transactions. Independence and objectivity may not exist because the internal audit staff is responsible for reviewing the work of the corporate controller, the person to whom it reports.
    - ii. No, the responses for Question b would not be affected by the internal audit staff reporting to an audit committee rather than the corporate controller. In order to maintain objectivity, the internal audit staff should refrain from performing nonaudit functions such as management decision making, design and installation of systems, record keeping, or operational duties.
3. **Segregation of Function (CMA 1288 3-22)**  
 An effective system of internal control includes the segregation of incompatible functions. Some of the examples presented represent incompatible duties. Comment on the specific risks (if any) that are caused by the combination of tasks.
- a. The treasurer has the authority to sign checks but gives the signature block to the assistant treasurer to run the check-signing machine.
  - b. The warehouse clerk, who has the custodial responsibility over inventory in the warehouse, may authorize disposal of damaged goods.

- c. The sales manager, who works on commission based on gross sales, approves credit and has the authority to write off uncollectible accounts.
- d. The shop foreman submits time cards and distributes paychecks to employees.
- e. The accounting clerk posts to individual account receivable subsidiary accounts and performs the reconciliation of the subsidiary ledger and the general ledger control account.

Response:

- a. No risks due to combination of tasks. The treasurer is responsible for having custody of the assets. The treasurer is not responsible for either authorizing or recording the transaction. By delegating the task of signing the checks to the assistant treasurer, no violation of the principle of the separation of functions occurs because the assistant treasurer does not authorize or record transactions either.
- b. This situation is in violation because the warehouse clerk has custodial responsibility as well as authorization of transactions. The potential risk is that the clerk may use the authorization power to record the disposal of stolen goods as damaged goods.
- c. This situation is in violation because the sales manager has the power of credit authorization as well as accounts receivable record keeping. The potential risk is that the manager may approve credit to a friend's or relative's business and then write off the account as bad.
- d. This situation is in violation because the time clerk has record keeping tasks as well as asset custody. The potential risk is that the time clerk may neglect to record the termination of an employee and proceed to keep the paychecks for him/herself.
- e. This situation is in violation because the accounting clerk both records transactions and verifies the accuracy of the recording. The purpose of a reconciliation is to verify that the two sets of records are equivalent. The risk is that the accounting clerk may conceal errors or cover up balances that do not equal because of embezzlement of funds.

4. **Segregation of Duties (CMA 1288 3-23)**

Explain why each of the following combinations of tasks should, or should not, be separated to achieve adequate internal control.

- a. Approval of bad debt write-offs and the reconciliation of accounts payable subsidiary ledger and the general ledger control account.
- b. Distribution of payroll checks to employees and approval of sales returns for credit.
- c. Posting of amounts from both the cash receipts and cash disbursements journals to the general ledger.
- d. Distribution of payroll checks to employees and recording cash receipts in the journal.
- e. Recording cash receipts in the journal and preparing the bank reconciliation.

Response:

- a. These two tasks do not need to be separated because no conflict exists between writing off bad debts (asset-accounts receivable) and reconciling accounts payable (liability).
- b. These two tasks do not need to be separated because they are independent of one another.
- c. In neither case does the employee have access to the assets; therefore no danger exists.
- d. These two tasks do not need to be separated because they are independent of one another.
- e. These tasks should be separated. The employee records the transactions and has access to assets. To allow the employee to verify the accuracy of the records would allow her or him to cover up any money embezzled by doctoring the bank reconciliation.

5. **Internal Control (CMA Adapted 1289 3-4)**

Oakdale, Inc., is a subsidiary of Solomon Publishing and specializes in the publication and distribution of reference books. Oakdale's sales for the past year exceeded \$18 million, and the company employed an average of 65 employees. Solomon periodically sends a member of its internal audit department to audit the operations of each of its subsidiaries, and Katherine Ford, Oakdale's treasurer, is currently working with Ralph Johnson of Solomon's internal audit staff. Johnson has just completed a review of Oakdale's investment cycle and prepared the following report.

*General*

Throughout the year, Oakdale has made both short-term and long-term investments in securities; all securities are registered in the company's name. According to Oakdale's bylaws, long-term investment activity must be approved by its board of directors, while short-term investment activity may be approved by either the president or the treasurer.

*Transactions*

Oakdale has a computer link with its broker; thus, all buy and sale orders are transmitted electronically. Only individuals with authorized passwords may initiate certain types of transactions. All purchases and sales of short-term securities in the year were made by the treasurer. In addition, two purchases and one sale of long-term securities were executed by the treasurer. The long-term security purchases were approved by the Board. The president, having online authorization access to all transactions, was able to approve a sale of a long-term security. The president is given access to authorize all transactions engaged in by the firm. Because the treasurer is listed with the broker as the company's contact, all revenue from these investments is received by this individual, who then forwards the checks to accounting for processing.

*Documentation*

Purchase and sales authorizations, along with broker's advices, are maintained in an electronic file with authorized access by the treasurer. Brokers' advice is received verbally on the phone, and this advice is noted on a broker advice form. This form is filed by the treasurer. The certificates for all long-term investments are kept in a safe deposit box at the local bank; only the president of Oakdale has access to this box. An inventory of this box was made, and all certificates were accounted for. Certificates for short-term investments are kept in a locked metal box in the accounting office. Other documents such as long-term contracts and legal agreements are also kept in this box. There are three keys to the box held by the president, treasurer, and the accounting manager. The accounting manager's key is available to all accounting personnel, should they require documents kept in this box. Certificates of investments may take up to four weeks to receive after the purchase of the investment. An electronic inventory list is kept perpetually. The data are keyed in by accounting personnel who receive a buy/sale transaction sheet from the treasurer. The president, treasurer, and accounting manager all have passwords to access and update this inventory list. The accounting manager's password is known by two of the accounting supervisors in case the inventory list needs to be updated when the accounting manager is not available. Documentation for two of the current short-term investments could not be located in this box; the accounting manager explained that some of the investments are for such short periods of time that formal documentation is not always provided by the broker.

*Accounting Records*

Deposits of checks for interest and dividends earned on investments are recorded by the accounting department, but these checks could not be traced to the cash receipts journal maintained by the individual who normally opens, stamps, and logs incoming checks. These amounts are journalized monthly to an account for investment revenue. Electronic payments

for investment purchases are authorized by the treasurer. If the amount is in excess of \$15,000, an authorization code given by the treasurer or president is necessary.

Each month, the accounting manager and the treasurer prepare the journal entries required to adjust the short-term investment account. There was insufficient backup documentation attached to the journal entries reviewed to trace all transactions; however, the balance in the account at the end of last month closely approximates the amount shown on the statement received from the broker. The amount in the long-term investment account is correct, and the transactions can be clearly traced through the documentation attached to the journal entries. No attempts are made to adjust either account to the lower of aggregate cost or market.

***Required:***

To achieve Solomon Publishing's objective of sound internal control, the company believes the following four controls are basic for an effective system of accounting control.

- Authorization of transactions
  - Complete and accurate record keeping
  - Physical control
  - Internal verification
- a. Describe the purpose of each of the four controls listed above.
  - b. Identify an area in Oakdale's investment procedures that violates each of the four controls listed above.
  - c. For each of the violations identified, describe how Oakdale can correct it.

**Response:**

- a. The purpose of each of the four controls follows.
  - **Authorization of transactions** is required to adequately safeguard assets against fraud and illegal transactions and provide a level of internal control. A formal system of transaction authorizations allows the commitment of company resources in accordance with management goals and objectives. Transactions must be executed according to the terms of their general or specific authorizations, by responsible personnel acting within the scope of their prescribed authority and responsibility.
  - **Complete and accurate record keeping** is necessary to assure that prompt, timely, and accurate recording of transactions or economic events occurs. Companies must make and keep books, records, and accounts that, in reasonable detail, accurately reflect the transactions and dispositions of assets. Furthermore, the recording of transactions is necessary to permit preparation of financial statements in conformity with GAAP.
  - **Physical controls** relate to safeguarding assets, documents, and records to prevent their loss, destruction, or alteration.
  - **Internal verification** refers to (1) the independent review of the accuracy and propriety of another party's work, and (2) the testing of the recorded accountability for assets as compared to existing assets at reasonable time intervals.

b. and c.

<u>VIOLATION</u>	<u>PROPOSED CORRECTION</u>
The sale of long-term securities based on the president's approval when the board of directors' approval is required violates authorization procedures.	Implement formalized procedures (in addition to the company's bylaws) reinforcing the policy that only the board of directors can authorize long-term security purchases, and sales.

All dividend and interest checks are received by the treasurer and forwarded to the accounting department; no entry is made in the cash receipts book. It is, therefore, not possible to determine if all interest and dividend checks have been received and deposited.

The balance in the accounts as of the end of the month closely approximated the amounts shown on the broker's statements.

The treasurer has the authority to buy and sell securities, receives revenue, and makes journal entries related to securities.

Access to short-term securities is unrestricted in the accounting department.

All checks should be forwarded to the group that normally opens, stamps, and logs incoming checks, and the checks should be recorded in the cash receipts book at the time of receipt.

The interest and dividend checks (entries) should be reconciled by the accounting department to the monthly broker's statements. These statements should be kept on file to assure that all checks have been received, deposited, and accounted for.

The accounting department must undertake the reconciliation of the differences and implement appropriate procedures to assure that the accounts and the brokerage statements are reconciled monthly.

Strengthen internal control so that the treasurer does not have conflicting duties.

The short-term securities should be placed in a restricted facility such as a bank safe deposit box or a company safe.

Access to short-term securities should be limited to a few responsible personnel and two people should be present each time the securities are accessed. Additionally, a log book should be maintained to record any disposition of securities.

## 6. Internal Control (CMA 1290 4-2)

Arlington Industries manufactures and sells component engine parts for large industrial equipment. The company employs over 1,000 workers for three shifts, and most employees work overtime when necessary. Arlington has had major growth in its production and has purchased a mainframe computer to handle order processing, inventory management, production planning, distribution operations, and accounting applications. Michael Cromley, president of Arlington, suspects that there may be internal control weaknesses due to the quick implementation of the computer system. Cromley recently hired Kathleen Luddy as the internal control accountant.

Cromley asked Luddy to review the payroll processing system first. Luddy has reviewed the payroll process, interviewed the individuals involved, and compiled the flowchart shown on page 38 in the text. The following additional information concerns payroll processing.

- The personnel department determines the wage rate of all employees at Arlington. Personnel starts the process by sending an authorization form for adding an employee to the payroll to Marjorie Adams, the payroll coordinator. After Adams inputs this information into the system, the computer automatically determines the overtime and shift differential rates for the individual, updating the payroll master files.
- Arlington uses an external service to provide monthly payroll tax updates. The company receives a magnetic tape every month, which the data processing department installs to update the payroll master file for tax calculations.



- Employees at Arlington use a time clock to record the hours worked. Every Monday morning, Adams collects the previous week's time cards and begins the computerized processing of payroll information to produce paychecks the following Friday. Adams reviews the time cards to ensure that the hours worked are correctly totaled; the system will determine whether overtime has been worked or a shift differential is required.
- All the other processes displayed on the flowchart are performed by Adams. The system automatically assigns a sequential number to each payroll check produced. The checks are stored in a box next to the computer printer to provide immediate access. After the checks are printed, Adams uses an automatic check-signing machine to sign the checks with an authorized signature plate that Adams keeps locked in a safe.
- After the check processing is completed, Adams distributes the checks to the employees, leaving the checks for the second- and third-shift employees with the appropriate shift supervisor. Adams then notifies the data processing department that she is finished with her weekly processing, and data processing makes a backup of the payroll master file to magnetic tape for storage on the tape shelves in the computer room.

***Required:***

By referring to the information in Problem 6 and the *flowchart*, identify and describe:

- a. Five different areas in Arlington's payroll processing system where the system controls are inadequate.
- b. Two different areas in Arlington's payroll processing system where the system controls are satisfactory.

**Response:**

- a. Five different areas in Arlington Industries' payroll processing system where the system control are inadequate are
  - The payroll processing system violates the principle of segregation of duties. The same individual verifies the time cards, inputs payroll information into the master file, prints the checks, machine-signs the checks, distributes the checks, and prepares the payroll journal entry, which may lead to corruption.
  - There is no authorization of employees' time cards by a supervisor or other objective party, such as a timekeeper.
  - The payroll checks are not prenumbered nor are they properly stored. As a result, there is no audit trail to verify check usage.
  - There is no control over the machine-signing of checks—no control of the signature plate by a second party or use of a log to record activity.
  - The data processing department appears to have full access to the payroll files and checks, which could lead to sensitive payroll information being leaked.
- b. Two different areas in Arlington Industries' payroll processing system where the system controls are satisfactory are
  - The personnel department determines the wage rate and initiates the setup of payroll records, which is a good example of segregation of duties.
  - A backup of the master file is made after each weekly processing of the payroll.

## PROJECTS

1. Visit a Web site for one of the audit professional organizations. Find the answers to the following questions:
  - a. What relevant certification(s) is (are) supported by the organization? What is the cost to take the certification exam?
  - b. What requirements does the organization have for continuing education requirements?
  - c. How does the organization support IT auditors? Be specific.
  - d. What publications are provided by the organization? How does the publication relate to IT audits?
  - e. What services are provided by the organization to its members?
  - f. Where is the closest chapter?
  - g. Does a student membership program exist for the organization? If so, what is the cost for student members?

Response:

	<b>AICPA</b>	<b>ISACA</b>	<b>IIA</b>	<b>ACFE</b>
Certifications	CPA, CITP	CISA	CIA	CFE
ContEd	40 hr.: 8=A&A/year	Ave. 40 hr./year	Ave. 40 hr./year	Ave. 20 hr./yr.
Support IT	CITP, IT section, SAS, seminars, training	Cobit, tools, books, seminars, training	eSAC, tools, books, seminars, training	tools, books, seminars, training
Publications	Newsletter, <i>JoA</i>	<i>ISC Journal</i> , <i>Global Communiqué</i>	<i>Internal Auditor</i>	Newsletter, White papers, Annual report
Service	Cont. Educ., seminars, local chapters	Cont. Educ., seminars, local chapters	Cont. Educ., seminars, local chapters	Cont. Educ., seminars, local chapters
Closest Chapter	<Depends>	<Depends>	<Depends>	<Depends>
Students	Yes: \$30	Yes: \$25	Yes: \$30	Yes: \$25

2. Financial frauds such as Enron, WorldCom, and Adelphia led to the passage of the Sarbanes-Oxley Act 2002. Using the Internet, find answers to the following questions about changes being made regarding audit committees in S-OX:
  - a. Describe a requirement for audit committees in S-OX.
  - b. Describe a requirement for internal controls in S-OX.
  - c. How do these changes affect IT auditors?
  - d. How do these changes affect internal auditors?
  - e. How do these changes affect financial auditors?

Response:

- a.
  - i. Financial expertise by at least one member of audit committee.
  - ii. Members must be outsiders (independence factor).
  - iii. Audit committee hires external auditors and sets audit fees.
  - iv. Responsible for whistle-blowing system, tips, and complaints system
- b.
  - i. Report by management on internal controls annually.
  - ii. Disclosure on material weaknesses in internal controls.

- c.
  - i. IT auditors will probably be involved in evaluating the internal controls for management's annual report.
  - ii. IT auditors may interact more with audit committee on significant errors, frauds, or other matters.
- d.
  - i. Internal auditors will most likely be the first choice of management to provide the annual report. It will probably need to be done well before the end of the fiscal year in order to allow time for the organization to respond to any material weaknesses found in the evaluation, thus giving the organization time to correct the weakness and NOT have to disclose it.
  - ii. Internal auditors will probably interact more with the audit committee, especially on significant errors, all frauds, tips and complaints, and whistle-blower reports.
- e.
  - i. Financial auditors will be hired by the audit committee in the future.
  - ii. Financial auditors will have their audit fees set by the audit committee and not management.
  - iii. Financial auditors will not be able to provide certain services and the audit/assurance.
  - iv. Financial auditors will be expected to interact with the Audit Committee when disagreements occur between external auditors and management regarding the application of GAAP.
  - v. In some cases, public accounting firms may be hired to provide the annual evaluation of internal controls.