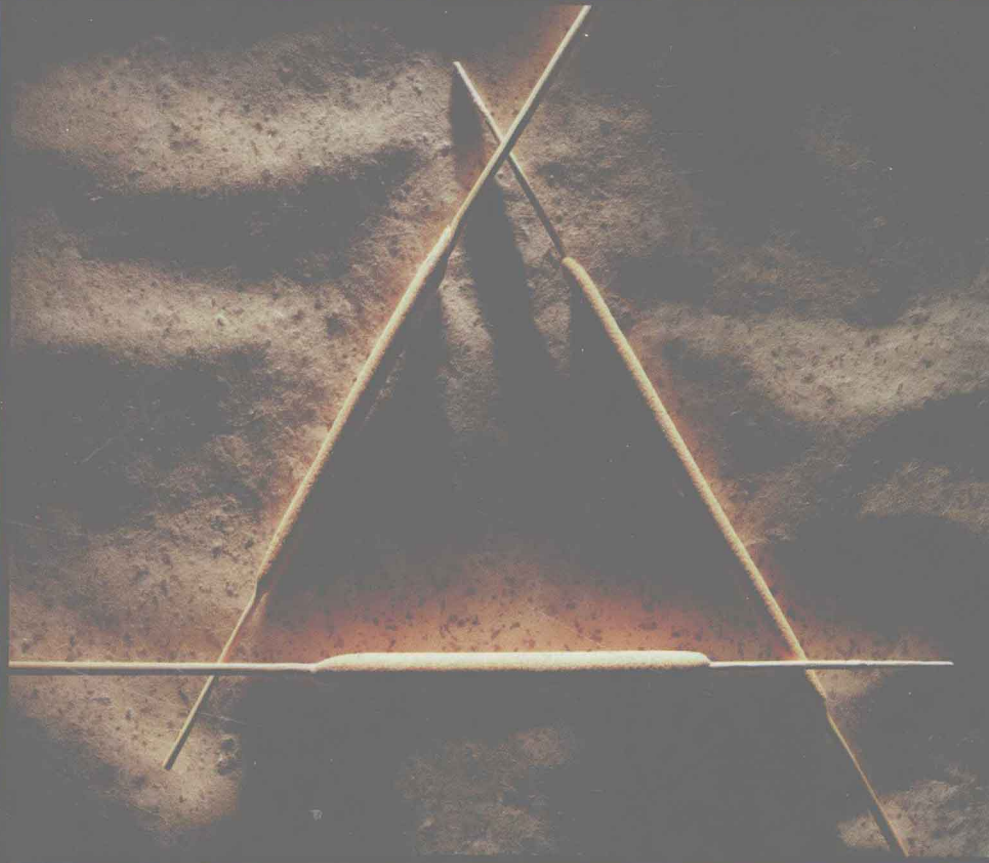


AUDITING CONCEPTS AND APPLICATIONS:

A Risk
Analysis
Approach



4^E

LARRY F. KONRATH

Auditing Concepts and Applications:

A Risk Analysis Approach

Larry F. Konrath
University of Toledo



South-Western College Publishing

an International Thomson Publishing company ITP®

Cincinnati • Albany • Boston • Detroit • Johannesburg • London • Madrid • Melbourne • Mexico City
New York • Pacific Grove • San Francisco • Scottsdale • Singapore • Tokyo • Toronto

Team Director: Richard K. Lindgren
Acquisitions Editor: David L. Shaut
Marketing Manager: Maureen Riopelle
Developmental Editor: Katherine Meisenheimer
Production Editor: Marci Dechter
Internal Design: Rokusek Design
Cover Designer: Paul Neff
Cover Photography: PhotoDisc, Jim Linna
Manufacturing Coordinator: Gordon Woodside
Technology Coordinator: Lora Craver
Production House: Cover to Cover Publishing

Copyright © 1999
by South-Western College Publishing
Cincinnati, Ohio

ALL RIGHTS RESERVED

The text of this publication, or any part thereof, may not be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, storage in an information retrieval system, or otherwise, without prior written permission of the publisher.

Material in the text is included from Certified Internal Auditor Examinations by The Institute of Internal Auditors, Inc. 249 Maitland Avenue, Altamonte Springs, Florida 32701 U.S.A. Reprinted with permission.

Material from the Uniform CPA Examination, Questions and Unofficial Answers, by the American Institute of Certified Public Accountants, Inc., is reprinted (or adapted) with permission.

ISBN: 0-538-88573-4

1 2 3 4 5 6 7 8 9 D 6 5 4 3 2 1 0 9 8
Printed in the United States of America

Library of Congress Cataloging-in-Publication Data
Konrath, Larry F.

Auditing concepts and applications : a risk-analysis approach /
Larry F. Konrath -- 4th ed.
p. cm.

Includes bibliographical references and index.

ISBN 0-538-88573-4

1. Auditing. I. Title.

HF5667.K62 1998

657'.45--dc21

98-16764
CIP

ITP®

International Thomson Publishing

South-Western is an ITP Company. The ITP trademark is used under license.

PREFACE

Objectives and Approach

Like its earlier editions, the fourth edition of *Auditing Concepts and Applications: A Risk Analysis Approach* stresses the important elements of audit risk analysis. In meeting this goal, the text offers an in depth framework that addresses the concepts of audit evidence and materiality. Emphasis is given to the meeting of user expectations through audit risk analysis, application of audit judgment, and ethical considerations in auditing.

The fourth edition also addresses the broader aspects of assurance services that have gained increasing emphasis in contemporary auditing. Today's CPA applies a concept of assurance that is much broader than traditional financial statement auditing, performing such attest services as evaluating performance measurement systems, assessing the reliability of information systems, appraising an entity's business risk assessment function, and rating the integrity of electronic commerce.

The text also strikes a balance between conceptual and applied aspects of auditing. In this regard, *Auditing Concepts and Applications* provides students with an effective preparation source for the auditing part of the Certified Public Accountants examination and is well documented with materials from pronouncements by the American Institute of Certified Public Accountants (AICPA).

To stress the importance of the "risk-driven" audit, audit risk is introduced early in an entire chapter on materiality and audit risk analysis (Chapter 5). After the topic is developed in Chapter 5, the concept of risk analysis and its relationship to the audit program is explored quantitatively in two chapters on statistical sampling (Chapters 9 and 10). The coverage of statistical sampling in auditing is extensive and affords the student the opportunity to visualize clearly the relationship between various levels of audit risk and their impact on the nature, timing, and extent of audit procedures.

To offer full coverage of audit risk, the text assigns much of the accounting systems' details to well-organized and useful chapter appendices. Since many senior-level accounting students have had a course in accounting information systems (AIS), assignment of systems' details to appendices reduces unnecessary topic redundancy in the systems and the auditing courses. For those who have not had a prior systems course, the appendix following Chapter 7 should provide sufficient background information.

Changes in Fourth Edition

The fourth edition of *Auditing Concepts and Applications* retains and builds upon the risk analysis framework developed in earlier editions. Major changes from the third to the fourth edition include the following:

- The new **Independence Standards Board**, established jointly by the AICPA and the Securities and Exchange Commission for the purpose of establishing independence standards for public companies, is described in Chapter 2.

- Chapters 2 and 3, pertaining to quality in auditing, have been reorganized. In accordance with the standards set forth in the *AICPA Professional Standards*, Chapter 2 defines the quality of assurance services, while Chapter 3 addresses maintenance of audit quality through self-regulation by the profession and external regulation by the SEC and the courts.
- Statements on Auditing Standards No. 82, *Consideration of Fraud in a Financial Statement Audit*, is addressed in Chapter 2 and integrated into the risk analysis framework presented in Chapter 5.
- The *Private Securities Litigation Reform Act of 1995* is analyzed in Chapter 3, in terms of its effect on the financial audit.
- Chapter 3 also discusses the more recent court cases impacting auditor liability, such as *Machata vs. Seidman & Seidman*; *Congregation of the Holy Passion vs. Touche*; *Barger vs. McCoy*, *Hillard and Parks*; and the Coopers & Lybrand settlement in the *Robert Maxwell* case.
- Chapters 4 and 5 have also been reorganized. Chapter 4 deals exclusively with the concepts of audit evidence, audit programs, and audit workpapers. Chapter 5 develops the concepts of materiality and audit risk and defines the relationship between materiality and risk.
- The Chapter 4 discussion of analytical procedures has been organized into three subsets to improve students' understanding of this important set of auditing procedures:
 - Trend (horizontal) analysis;
 - Common size (vertical) analysis; and
 - Ratio analysis.
- Chapter 5 describes the auditor's consideration of materiality in planning the audit, conducting the audit, and evaluating audit results.
- In the previous edition, internal control was discussed in Chapter 6 in two sections entitled "Components of Internal Control" and "Internal Control Policies and Procedures Relevant to an Audit." In the current edition, these sections have been combined into a single section entitled "Components of Internal Control." This change reduces redundancy and focuses the discussion on those aspects of internal control that are of significance to the auditor.
- The Chapter 7 section on the auditor's assessment of control risk has been reorganized into the following subsets:
 - Obtaining an understanding of the control system;
 - Identifying control points;
 - Documenting the auditor's understanding of the system;
 - Assessing control risk and documenting conclusions; and
 - Reducing the assessed level of control risk through control testing.
- Chapter 8, *Internal Control and EDP*, has been updated for technological changes in both transaction processing and auditing. Topics such as "data warehousing," "auditing in a paperless environment," and "neural networks" as a variant of expert systems, have been added to this chapter. The chapter also includes a new section covering the testing and evaluation of general controls.
- Chapter 12, *Substantive Audit Testing: The Expenditure Cycle*, includes a new section under "Audit Risk Analysis and the Expenditure Cycle" dealing with *special charges*. IBM's acquisition of Lotus Development is used as a framework for questioning the propriety of these special charges and their favorable impact on future earnings.
- Chapter 14 contains several new audit reports extracted from the SEC EDGAR database.

- Chapter 15, *Other Assurance Services*, has been rewritten as necessary to conform to the recommendations of the AICPA Committee on Assurance Services. Some of the newer assurance services, such as attesting to data security in electronic commerce, evaluating clients' performance measurement systems, and assessing business risk, are discussed. The following classification schemata has been incorporated into the chapter to logically integrate the subject matter:
 - Assurance services covered by the auditing standards;
 - Assurance services covered by the accounting and review standards;
 - Assurance services covered by the attestation standards; and
 - New assurance services not presently covered by existing standards.
- Finally, the section on *compliance attestation* has been revised to conform to Statements on Auditing Standards No. 75 describing conditions that must exist if the CPA is to perform an agreed-upon procedures audit.
- Chapter 16 has been revised to conform to the new provisions of OMB Circular A-133.

Learning Aids and Pedagogical Tools


EDP Audit Practice Case

The appendix following Chapter 16 contains a computer audit practice case, Bilrite Bicycles, Inc. The practice case is divided into fifteen modules that parallel related chapter topics. A diskette containing partially completed audit workpapers is included with the textbook. The modules, which may be assigned individually or severally at the instructor's option, begin following Chapter 8. They continue at the end of succeeding chapters, ending with Chapter 14.

The practice case permits the student to discover how much of the typical financial audit can be automated with the computer. In addition, the student obtains a hands-on exposure to computer auditing. The modules are sufficiently condensed that excessive amounts of computer time are not consumed. However, at the same time, the student must assess audit risk, analyze data, apply auditing procedures, and evaluate the results—all with the aid of the computer. These materials make *Auditing Concepts and Applications* unique in the auditing textbook market and add an exciting dimension to the study of auditing.

Audit Workpaper Templates

Six author-prepared essay/discussion case questions are accompanied by Lotus 1-2-3 templates contained on the student diskette accompanying this textbook. The templates consist of partially completed audit workpapers. Students are asked to complete the workpapers by analyzing data, performing calculations, stating conclusions, and using audit legends to describe procedures applied. These problems give students the opportunity to simulate the audit field work experience and to learn how the computer assists in the performance and documenting of audits.

The cases, identified in the end-of-chapter materials by the computer diskette symbol , are:

Chapter 4: Discussion Case—Hanlon, Inc.

Chapter 5: Discussion Case IV—Marcus Publishing, Inc.

Chapter 11: Problem 11.12—Jones Transfer, Inc.

Chapter 12: Problem 12.9—Selfers Service Center

Chapter 13: Problem 13.15—Marvel Muffler Shops, Inc.

Chapter 13: Problem 13.16—Branson Manufacturing Company

Audit Objectives and Procedures Matrices

Matrices providing an integrated framework for analysis are included in appendices following Chapters 11 through 13.

The matrix approach helps to reinforce students' understanding of substantive audit testing by providing a framework for developing audit programs. This approach also enables students to build their own audit programs around careful risk analysis and formulation of specific objectives.

Use of Cases

To bring the material alive and to emphasize the importance of risk analysis in auditing, *Auditing Concepts and Applications* makes liberal use of case examples. Extensive references to cases involving auditors serves to reinforce students' mastery of concepts by relating a given concept to an actual company. Some of the cases are incorporated into the chapters, while others are included as end-of-chapter materials. All of the cases are based on actual events and are structured to contrast what should have been done with what actually was done.

Illustrations

Extensive use is made of diagrams, tables, and listings to ease the learning process. Internal control flowcharts and listings of necessary documents, records, and functions appended to the control chapters provide an easy review of control techniques without unnecessarily cluttering the chapter on internal control concepts.

Coverage of AICPA Professional Standards

The standards issued by the American Institute of Certified Public Accountants, referred to as *AICPA Professional Standards*, are given comprehensive coverage throughout the text as they impact given subject areas.

Chapter Organization

Careful attention has been given in *Auditing Concepts and Applications, Fourth Edition*, to chapter organization in order to maintain maximum clarity and completeness. The study of auditing is organized into five major categories. Chapters 1 through 3 describe the **environment of auditing**; Chapters 4 through 8 present a **conceptual approach to auditing**; Chapters 9 and 10 develop the **relationship between internal control evaluation and substantive audit testing**; Chapters 11 through 13 cover the topic of **substantive audit testing**; and Chapters 14 through 16 discuss **audit reports and other assurance services**.

Chapter Overview and Study Objectives

At the beginning of each chapter, an overview and a listing of study objectives are presented to introduce the reader to the major topics to be covered and to identify the major concepts to be learned from studying the chapter.

Key Terms and Glossary

A list of key terms is provided at the end of each chapter and serves as additional reinforcement of the learning process. Although auditing is related to accounting, it is not the same. The auditing student encounters many new terms, as well as familiar terms with a different connotation.

A *complete glossary* at the end of the textbook supplements the list of key terms and helps the student learn the language of auditing.

End-of-Chapter Materials

Essay questions, problems, and discussion cases, along with multiple-choice questions from past CPA and CIA exams, are supplied at the end of each chapter. End-of-chapter review questions and applicable parts of the Biltrite computer audit practice case also are included. Flowcharting problems following Chapters 7 and 8 afford an opportunity to study an internal control narrative and graphically present it in the form of a flowchart. The template problems, together with the Biltrite practice case, offer a “hands-on” audit field work experience.

When considered collectively, these materials serve the dual purpose of solidifying the learning process and providing the student with questions important to CPA exam preparation. The multiple-choice questions are especially effective in reviewing the contents of the Statements on Auditing Standards (SASs), a major component of the auditing part of the CPA exam. Answers to the multiple-choice questions, along with the reasons for correct and incorrect choices, are given at the end of the textbook.

Supplements

Materials available to supplement this textbook include an *Instructor's Manual*, a *Study Guide*, a computerized *Test Bank*, and an *Instructor's Diskette*. The *Test Bank* is also available in printed form and, in addition to multiple-choice questions from past CPA and CIA examinations, contains author-prepared multiple-choice, completion, matching, and essay questions.

The *Instructor's Manual* includes the following:

1. Answers to end-of-chapter materials: review questions, multiple-choice questions, essay questions, problems (including the six template problems referred to earlier), and discussion cases. For CPA exam and CIA exam questions, the official answers are supplied. For multiple-choice questions, the answers are accompanied by narratives supporting correct choices and reasons other choices are incorrect.
2. Useful outlines for preparing lectures on the topics presented in each chapter.
3. Printout of solutions to the Biltrite Bicycles audit practice case modules.
4. Transparency masters highlighting important chapter topics.
5. Teaching suggestions at the beginning of each chapter, as appropriate, and for the Biltrite Bicycles audit practice case.

The *Instructor's Diskettes* contain:

1. Diskette 1:
 - a. Completed workpapers for the Biltrite Bicycles audit practice case; and

- b. Completed templates for the six case/problem assignments for which partial templates are provided on the student diskette.
2. Diskette 2: Lecture outlines.

The **Study Guide** includes the following materials that students will find useful in mastering the topics covered in the textbook:

1. A review of key points in expanded outline form covered in each chapter.
2. True/false questions, completion questions, and practice exercises highlighting major chapter topics.
3. Answers to questions, including reasons for true/false answers.

Acknowledgments

The author would like to thank the American Institute of Certified Public Accountants and the Institute of Internal Auditors for their generosity in granting permission to quote extensively from the professional literature, as well as for their permission to use past professional examination questions as a major part of the end-of-chapter materials.

The author gratefully acknowledges the valuable advice of the many persons who reviewed the textbook drafts: Elizabeth Dreike Almer, *University of Miami*; Jon Andrus, *California State University–Fullerton*; David Bukovinsky, *Pennsylvania State University–Harrisburg*; Jean G. Crawford, *Alabama State University*; Gary G. Johnson, *Southeast Missouri State University*; Joe Kaderabek, *Baldwin-Wallace College*; Heidi H. Meier, *Cleveland State University*; Richard L. Rogers, *Indiana University*; Gail B. Wright, *Bryant College*.

Special thanks go to Donald Loster, *University of California–Santa Barbara* and Gail

B. Wright, *Bryant College*. Their thoroughness in verifying the accuracy of the text and its supplements is much appreciated.

The author also appreciates the assistance furnished by David Shaut, manuscript editor, and Katherine Meisenheimer, developmental editor. Their helpful advice and diligent attention to detail have greatly enhanced the value of this textbook. I would also like to acknowledge Marcella Dechter, production editor, and Maureen L. Riopelle, the marketing manager, at South-Western College Publishing for the fine job of producing and promoting the book.

Finally I would like to thank my wife, Charn, for her constant encouragement and support; our son, Kris, and our daughter, Jennifer, for their strong vote of confidence; and our two golden retrievers for their undaunted enthusiasm. A happy household makes for a most enjoyable project.

BRIEF CONTENTS

1	An Overview of Auditing.....	1
2	Professional Responsibility: Defining the Quality of Assurance Services.....	26
3	Professional Responsibility: Maintaining the Quality of Assurance Services.....	57
4	Audit Evidence and Audit Programs.....	103
5	Audit Risk and Materiality.....	145
6	Internal Control: Concepts.....	204
7	Internal Control: Assessment of Control Risk.....	235
8	Internal Control and EDP.....	306
9	Statistical Sampling for Testing Control Procedures.....	358
10	Statistical Sampling for Substantive Testing.....	398
11	Substantive Audit Testing: Revenue Cycle.....	435
12	Substantive Audit Testing: Expenditure Cycle.....	483
13	Substantive Audit Testing: Financing and Investing Cycle and Completing the Audit	533
14	Audit Reports	591
15	Other Assurance Services.....	638
16	Operational and Governmental Compliance Auditing	675
	Bilrite Bicycles Inc.: An EDP Audit Practice Case.....	711
	Answers to Multiple Choice Questions.....	753
	Glossary.....	785
	Index	803

CONTENTS

An Overview of Auditing

ONE

Overview, 1
Study Objectives, 1
Auditing, Attestation, and Assurance, 1
Why Independent Auditing Is Necessary, 4
Independent Auditing versus Internal Auditing, 5
Audits by Government Organizations, 7
General Accounting Office, 7
Defense Contract Audit Agency, 7
Internal Revenue Service, 7
How Auditing Differs from Accounting, 7
Requirements for an Effective Audit, 8
Evaluation of Evidence, 10
Communication of the Auditor's Findings, 10
The Audit Process: An Overview, 12
Audit Planning, 12
<i>Preliminaries</i> , 12
<i>Engagement Letter</i> , 13
<i>Audit Risk Analysis</i> , 15
<i>Audit Field Work Planning</i> , 15
Interim Audit Work, 15
Final Audit Work, 16
<i>Inventory Observation</i> , 16
<i>Tests of Transactions and Balances</i> , 16
Audit Report, 16
Other Services Performed by CPA Firms, 17
Key Terms, 18
Review Questions, 18
Multiple Choice Questions from Past CPA Exams, 19
Essay Questions and Problems, 21

Professional Responsibility: Defining the Quality of Assurance Services

TWO

Overview, 26
Study Objectives, 26
Introduction, 27
Sources Defining Quality, 29
Professional Standards, 29
<i>Generally Accepted Auditing Standards</i> , 29

<i>Attestation Standards</i> , 33
<i>Statements on Standards for Accounting and Review Services</i> , 33
<i>Statements on Standards for Consulting Services</i> , 33
<i>Statements on Responsibilities in Tax Practice</i> , 34
Code of Professional Conduct, 34
<i>Principles of Conduct</i> , 35
<i>Rules of Conduct</i> , 35
Codification of Professional Standards, 43
Key Terms, 44
Review Questions, 44
Multiple Choice Questions from Past CPA Exams, 45
Essay Questions, 47
Discussion Cases, 53

THREE

Professional Responsibility: Maintaining the Quality of Assurance Services

Overview, 57
Study Objectives, 57
Introduction, 57
Self-Regulation and Quality Maintenance, 59
The AICPA, the State Boards of Accountancy, and Quality Maintenance, 59
The AICPA Quality Control Standards Committee, 60
The Division for CPA Firms, 60
Independence Standards Board, 61
Self-Regulation and the Expectations Gap, 61
External Regulation, 64
The Securities and Exchange Commission (SEC), 64
The Courts, 66
<i>Types of Liability</i> , 66
<i>Sources of Auditor Liability</i> , 70
<i>Summary of Sources and Types of Auditor Liability</i> , 75
<i>Liability for Unaudited Statements</i> , 76
<i>Prevention of Legal Action</i> , 76
<i>Dealing with Liability</i> , 77
Appendix, 78
Legal Cases Involving Auditors, 78
<i>Preface to Cases</i> , 78
<i>Cases Under Common Law</i> , 79
<i>Cases Under Statutory Law</i> , 81
<i>Association with Unaudited Financial Statements</i> , 86
Key Terms, 86
Review Questions, 87
Multiple Choice Questions from CPA Exams, 88
Essay Questions, 93
Discussion Case, 99

Audit Evidence and Audit Programs**FOUR**

- Overview, 103
- Study Objectives, 103
- Introduction, 103
- Audit Objectives, 104
 - Understanding the Client's Environment, 104
 - Understanding the Business and the Industry*, 104
 - Understanding the Existing Internal Control System*, 105
 - Audit of Transactions and Balances, 106
 - Existence or Occurrence*, 108
 - Completeness*, 108
 - Rights and Obligations*, 108
 - Valuation or Allocation*, 108
 - Presentation and Disclosure*, 109
- Characteristics of Audit Evidence, 109
 - Factual versus Inferential Evidence, 109
 - Underlying Accounting Data and Corroborating Information, 110
 - Sufficiency and Competence of Evidence, 110
- Audit Evidence and Related Auditing Procedures, 111
 - Physical Evidence, 111
 - Confirmation Evidence, 112
 - Documentary Evidence, 113
 - Mathematical Evidence, 115
 - Analytical Evidence, 115
 - Purpose for Applying*, 115
 - Trend (Horizontal) Analysis*, 116
 - Common Size (Vertical) Analysis*, 116
 - Ratio Analysis*, 117
 - Analytical Procedures and the Completeness Assertion*, 118
 - Hearsay Evidence, 118
 - Some Concluding Observations, 120
- Audit Programs, 123
 - Developing Audit Programs, 123
 - Study and Evaluation of Internal Controls*, 124
 - Materiality of Transactions and Balances*, 124
 - Nature of the Client's Activities*, 124
 - Cost-Benefit*, 125
 - Documentation of Audit Programs, 125
- Audit Workpapers, 125
 - Audit Workpaper Files, 126
 - Permanent File*, 126
 - Current File*, 127
 - How Audit Workpapers Are Interconnected, 127
 - Guidelines for Preparing Adequate Audit Workpapers, 129
- Initial versus Recurring Audits, 132
- Key Terms, 133

Review Questions, 134
Multiple Choice Questions from Past CPA Exams, 135
Essay Questions and Problems, 137
Discussion Case, 142

FIVE Audit Risk and Materiality

Overview, 145
Study Objectives, 145
Introduction, 146
Audit Risk Defined, 146
Components of Audit Risk, 148
Inherent Risk, 148
Control Risk, 149
Detection Risk, 149
Quantifying Audit Risk, 149
Materiality and Its Impact on Audit Evidence, 151
The Meaning of Materiality as Applied to Auditing, 151
Individual Item versus Aggregate Materiality, 153
Relationship Among Audit Risk, Audit Evidence, and Materiality, 156
Analysis of Inherent Risk, 157
Preliminary Phases of Audit Planning, 158
<i>Inquiry of Client Personnel Assists in Identifying Risk Areas, 159</i>
<i>Use of Client Personnel Enables the Auditor to Concentrate on High-Risk Areas, 159</i>
<i>The Client Acceptance Decision Serves as Part of Risk Analysis, 159</i>
Study of the Business and Industry, 160
<i>Classifying Business and Industry Information, 161</i>
<i>Information Concerning the Economy, 161</i>
<i>Information Concerning the Industry, 165</i>
<i>The Client's Business, 167</i>
Analytical Procedures, 167
Classifying the Warning Signs, 169
Indicators of Possible Material Financial Statement Errors or Fraud, 169
Indicators of Forces Affecting Earnings or Liquidity, 171
Indicators of Possible Disclosure Requirements, 171
Indicators of Audit Complexity, 171
Indicators of Possible Management Dishonesty, 172
Risk Analysis Matrix, 173
Incorporating Inherent Risk Assessment into the Audit, 176
Risk-Driven versus Procedures-Driven Audits, 176
Preliminary Audit Programs, 177
Time Budgets and Staff Scheduling, 179
The Preaudit Conference, 181
Key Terms, 181
Review Questions, 182

Multiple Choice Questions from Past CPA Exams, 183
Essay Questions and Problems, 187
Discussion Cases, 194

Internal Control: Concepts

SIX

Overview, 204
Study Objectives, 204
Internal Control System Defined, 204
Components of Internal Control, 205
 Control Environment, 208
 Risk Assessment, 210
 Information and Communication, 211
 Information System Elements, 211
 Communication, 212
 Control Activities, 213
 Documentation, Approval, Verification, and Reconciliations, 213
 Reporting, 214
 Security of Assets (Safeguard Controls), 214
 Segregation of Duties, 214
 Monitoring Financial Reporting Controls, 215
Another Look at Financial Controls, 217
Inherent Limitations of Internal Control Systems, 218
 Collusion to Circumvent Control, 219
 Management Override, 219
 Temporary Breakdown of the System, 220
Internal Control for a Small Business, 221
Key Terms, 223
Review Questions, 224
Multiple Choice Questions from Past CPA and CIA Exams, 224
Essay Questions and Problems, 227

Internal Control: Assessment of Control Risk

SEVEN

Overview, 235
Study Objectives, 235
Auditor's Assessment of Control Risk, 236
Auditor's Approach to Assessing Control Risk, 236
 Obtain an Understanding of the Control System, 239
 Identify Control Points, 240
 Document Understanding, 240
 Assess Control Risk and Document Conclusions, 245

Reducing the Assessed Level of Control Risk through Control Testing, 246
<i>Reprocessing</i> , 247
<i>Observation</i> , 247
<i>Document Examination and Testing</i> , 248
Design of Substantive Audit Programs, 248
Adjusting Materiality Thresholds Based on Risk Analysis, 248
Qualitative Approach to Designing Substantive Tests, 249
Quantitative Approach to Designing Substantive Tests, 250
Summary of Audit Risk Assessment, 251
Communication of Reportable Conditions, 253
Appendix, 254
Transaction Cycles and Related Tests of Controls, 254
Revenue Cycle, 256
<i>Sales</i> , 256
<i>Cash Receipts</i> , 259
Expenditure Cycle, 265
<i>Purchases</i> , 265
<i>Payments to Vendors</i> , 269
<i>Payroll</i> , 272
<i>Production</i> , 279
Financing and Investing Cycle, 282
<i>Borrowing from Others</i> , 283
<i>Lending to Others</i> , 284
<i>Acquisitions and Disposals of Financial Assets</i> , 285
<i>Capital Stock and Dividend Transactions</i> , 286
Key Terms, 287
Review Questions, 288
Multiple Choice Questions from Past CPA and CIA Exams, 289
Essay Questions and Problems, 293
Discussion Cases, 303

EIGHT**Internal Control and EDP**

Overview, 306
Study Objectives, 307
Audit Approaches, 307
EDP and Audit Risk, 307
Impact of EDP on the Audit Approach, 307
<i>Change in the Audit Trail</i> , 307
<i>Combining of Functions</i> , 309
Alternative Approaches, 309
Types of EDP Accounting Systems, 310
Processing Systems, 310
<i>Batch Processing Systems</i> , 310

<i>Real-Time Processing Systems</i> , 311	
<i>Time Sharing and Service Bureaus</i> , 312	
File Systems, 312	
<i>Flat File System</i> , 312	
<i>Integrated Database System</i> , 312	
Hardware Configurations, 313	
<i>On-Line Systems</i> , 313	
<i>PC Systems</i> , 314	
<i>Distributed Data Processing</i> , 314	
Kinds of EDP Controls, 316	
General Controls, 316	
<i>Organization and Operation Controls</i> , 316	
<i>Systems Development and Documentation Controls</i> , 318	
<i>Access Controls</i> , 319	
<i>Data and Procedural Controls</i> , 319	
Application Controls, 320	
<i>Input Controls</i> , 320	
<i>Processing Controls</i> , 321	
<i>Output Controls</i> , 321	
User Controls, 321	
Techniques for Testing EDP-Based Controls, 323	
Understanding the System, 323	
<i>Observation and Inquiry</i> , 323	
<i>Study of Systems and Program Documentation</i> , 325	
Evaluating and Testing General Controls, 325	
<i>Organizational Controls</i> , 326	
<i>Access Controls</i> , 326	
<i>Systems Development and Documentation Controls</i> , 327	
<i>Data and Procedural Controls</i> , 327	
Evaluating and Testing Application Controls, 327	
<i>Test Data Approach</i> , 327	
<i>Integrated Test Facility (ITF) Approach</i> , 329	
<i>Tagging and Tracing</i> , 330	
<i>Systems Control Audit Review File (SCARF)</i> , 331	
<i>Parallel Simulation</i> , 331	
<i>Surprise Audit</i> , 331	
EDP and Audit Risk Implications, 332	
Audit Trail Modification, 332	
Reducing Control Risk for Advanced EDP Systems, 335	
Managing Detection Risk, 338	
Expert Systems as a Means of Managing Audit Risk, 339	
Key Terms, 340	
Computer Audit Practice Case, 341	
Review Questions, 342	
Multiple Choice Questions from Past CPA and CIA Exams, 343	
Essay Questions and Problems, 347	