

Certified Management Accountant
Learning Outcome Statements
(Content Specification Outline 5-2010)

PART 1 – Financial Planning, Performance and Control

Section A. Planning, Budgeting and Forecasting (30% - Levels A, B, and C)

Part 1 – Section A.1. Budgeting concepts

The candidate should be able to:

- a. describe the role that budgeting plays in the overall planning and performance evaluation process of an organization
- b. explain the interrelationships between economic conditions, industry situation, and a firm's plans and budgets
- c. identify the role that budgeting plays in formulating short-term objectives and planning and controlling operations to meet those objectives
- d. demonstrate an understanding of the role that budgets play in measuring performance against established goals
- e. identify the characteristics that define successful budgeting processes
- f. explain how the budgeting process facilitates communication among organizational units and enhances coordination of organizational activities
- g. describe the concept of a controllable cost as it relates to both budgeting and performance evaluation
- h. explain how the efficient allocation of organizational resources are planned during the budgeting process
- i. identify the appropriate time frame for various types of budgets
- j. identify who should participate in the budgeting process for optimum success
- k. describe the role of top management in successful budgeting
- l. identify best practice guidelines for the budget process
- m. demonstrate an understanding of the use of cost standards in budgeting
- n. differentiate between ideal (theoretical) standards and currently attainable (practical) standards
- o. differentiate between authoritative standards and participative standards
- p. identify the steps to be taken in developing standards for both direct material and direct labor
- q. demonstrate an understanding of the techniques that are used to develop standards such as activity analysis and the use of historical data
- r. discuss the importance of a policy that allows budget revisions that accommodate the impact of significant changes in budget assumptions
- s. explain the role of budgets in monitoring and controlling expenditures to meet strategic objectives
- t. define budgetary slack and discuss its impact on goal congruence

Part 1 – Section A.2. Forecasting techniques

The candidate should be able to:

- a. demonstrate an understanding of a simple regression equation and the measures associated with it
- b. define a multiple regression equation and recognize when multiple regression is an appropriate tool to use for forecasting
- c. calculate the result of a simple regression equation
- d. demonstrate an understanding of learning curve analysis
- e. calculate the results under a cumulative average-time learning model and under an incremental unit-time learning model
- f. demonstrate an understanding of moving averages, weighted moving averages and exponential smoothing, and calculate forecasts using these methods
- g. demonstrate an understanding of time series analyses, including objectives and patterns, i.e., trend, cyclical, seasonal, and irregular
- h. list the benefits and shortcomings of regression analysis, learning curve analysis, and time series analysis
- i. calculate the expected value of random variables
- j. identify the benefits and shortcomings of expected value techniques
- k. use probability values to estimate future cash flows
- l. identify the uses of sensitivity analysis
- m. perform a sensitivity analysis with different values for the probabilities of the states of nature and/or the payoffs
- n. identify the benefits and shortcomings of sensitivity analysis

Part 1 – Section A.3. Budget methodologies

For each of the budget systems identified (Annual/Master budgets, Project budgeting, Activity-based budgeting, Zero-based budgeting, Continuous (Rolling) budgets, and Flexible budgeting), the candidate should be able to:

- a. define its purpose, appropriate use, and time frame
- b. identify the budget components and explain the interrelationships among the components
- c. demonstrate an understanding of how the budget is developed
- d. compare and contrast the benefits and limitations of the budget system
- e. evaluate a business situation and recommend the appropriate budget solution
- f. prepare budgets on the basis of information presented
- g. calculate the impact of incremental changes to budgets

Part 1 – Section A.4. Annual profit plan and supporting schedules

The candidate should be able to:

- a. explain the role of the sales budget in the development of an annual profit plan
- b. identify the factors that should be considered when preparing a sales forecast and evaluate the feasibility of the sales forecast based on business and economic information provided
- c. identify the components of a sales budget and prepare a sales budget based on relevant information provided
- d. explain the relationship between the sales budget and the production budget
- e. identify the role that inventory levels play in the preparation of a production budget and define other factors that should be considered when preparing a production budget
- f. prepare a production budget based on relevant information provided
- g. demonstrate an understanding of the relationship between the direct materials budget, the direct labor budget, and the production budget
- h. explain how inventory levels and procurement policies affect the direct materials budget
- i. prepare direct materials and direct labor budgets based on relevant information and evaluate the feasibility of achieving production goals on the basis of these budgets
- j. identify and describe alternative ways of allocating employee benefit expense
- k. demonstrate an understanding of the relationship between the overhead budget and the production budget
- l. separate costs into their fixed and variable components
- m. prepare an overhead budget based on relevant information provided
- n. identify the components of the cost of goods sold budget and prepare a cost of goods sold budget based on relevant information provided
- o. demonstrate an understanding of contribution margin per unit and total contribution margin, identify the appropriate use of these concepts, and calculate both unit and total contribution margin
- p. identify the components of the selling and administrative budget
- q. explain how specific components of the selling and administrative budget may affect the contribution margin
- u. prepare an operational (operating) budget
- v. prepare a capital expenditure budget
- w. demonstrate an understanding of the relationship between the capital expenditure budget, the cash budget, and the pro forma financial statements
- x. define the purposes of the cash budget and describe the relationship between the cash budget and all other budgets
- y. demonstrate an understanding of the relationship between credit policies and purchasing (payables) policies and the cash budget

Institute of Certified Management Accountants

Part 1 – Section A.5. Top-level planning and analysis

The candidate should be able to:

- a. define the purpose of a pro forma income statement, a pro forma statement of financial position, and a pro forma cash flow statement and demonstrate an understanding of the relationship among these statements and all other budgets
- b. prepare pro forma income statements based on several revenue and cost assumptions
- c. evaluate whether a company has achieved strategic objectives based on pro forma income statements
- d. use financial projections to prepare a pro forma balance sheet and a statement of cash flows
- e. identify the factors required to prepare medium- and long-term cash forecasts
- f. use financial projections to determine required outside financing and dividend policy
- g. determine the effect of financial forecasts on debt covenants, including debt ratio and coverage ratios
- h. forecast earnings per share based on pro forma financial statements and other relevant information

Section B. Performance Management (25% - Levels A, B, and C)

Part 1 – Section B.1. Cost and variance measures

The candidate should be able to:

- a. analyze performance against operational goals using measures based on revenue, manufacturing costs, non-manufacturing costs, and profit depending on the type of center or unit being measured
- b. explain the reasons for variances within a performance monitoring system
- c. prepare a performance analysis by comparing actual results to the master budget, calculate favorable and unfavorable variances from budget, and provide explanations for variances
- d. identify and describe the benefits and limitations of measuring performance by comparing actual results to the master budget
- e. prepare a flexible budget based on actual sales (output) volume
- f. calculate the sales-volume variance and the sales-price variance by comparing the flexible budget to the master (static) budget
- g. calculate the flexible-budget variance by comparing actual results to the flexible budget
- h. investigate the flexible-budget variance to determine individual differences between actual and budgeted input prices and input quantities
- i. explain how budget variance reporting is utilized in a Management by Exception environment
- j. define a standard cost system and identify the reasons for adopting a standard cost system

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- k. demonstrate an understanding of price (rate) variances and calculate the price variances related to direct material and direct labor inputs
- l. demonstrate an understanding of efficiency (usage) variances and calculate the efficiency variances related to direct material and direct labor inputs
- m. demonstrate an understanding of spending and efficiency variances as they relate to fixed and variable overhead
- n. calculate a sales-mix variance and explain its impact on revenue and contribution margin
- o. demonstrate an understanding that the efficiency (usage) variances can be further analyzed as mix and yield variances
- p. explain how a mix variance results and calculate a mix variance
- q. calculate and explain a yield variance
- r. demonstrate how price, efficiency, spending, and mix variances can be applied in service companies as well as manufacturing companies
- s. analyze factory overhead variances by calculating variable overhead spending variance, variable overhead efficiency variance, fixed overhead spending variance, and production volume variance
- t. analyze variances, identify causes, and recommend corrective actions

Part 1 – Section B.2. Responsibility centers and reporting segments

The candidate should be able to:

- a. identify and explain the different types of responsibility centers
- b. recommend appropriate responsibility centers given a business scenario
- c. demonstrate an understanding of contribution margin reporting as used for performance evaluation and calculate a contribution margin
- d. analyze a contribution margin report and evaluate performance
- e. identify segments that organizations evaluate, including product lines, geographical areas, or other meaningful segments
- f. explain why the allocation of common costs among segments can be an issue in performance evaluation
- g. identify methods for allocating common costs such as stand-alone cost allocation and incremental cost allocation
- h. define transfer pricing and identify the objectives of transfer pricing
- i. identify the methods for determining transfer prices and list and explain the advantages and disadvantages of each method
- j. identify and/or calculate transfer prices using variable cost, full cost, market price, negotiated price, and dual-rate pricing
- k. explain how transfer pricing is affected by business issues such as the presence of outside suppliers and the opportunity costs associated with capacity usage
- l. describe how special issues such as tariffs, exchange rates, taxes, currency restrictions, expropriation risk, and the availability of materials and skills affect performance evaluation in multinational companies

Part 1 – Section B.3. Performance measures

The candidate should be able to:

- a. explain why performance evaluation measures should be directly related to strategic and operational goals and objectives; why timely feedback is critical; and why performance measures should be related to the factors that drive the element being measured, e.g., cost drivers and revenue drivers
- b. explain the issues involved in determining product profitability, business unit profitability, and customer profitability, including cost measurement, cost allocation, investment measurement, and valuation
- c. calculate product-line profitability, business unit profitability, and customer profitability given a set of data and assumptions
- d. evaluate customers and products on the basis of profitability and recommend ways to improve profitability and/or drop unprofitable customers and products
- e. define and calculate return on investment (ROI)
- f. analyze and interpret ROI calculations and evaluate performance on the basis of the analysis
- g. define and calculate residual income (RI)
- h. analyze and interpret RI calculations and evaluate performance on the basis of the analysis
- i. compare and contrast the benefits and limitations of ROI and RI as measures of performance
- j. explain how revenue and expense recognition policies may affect the measurement of income and reduce comparability among business units
- k. explain how inventory measurement policies, joint asset sharing, and overall asset measurement may affect the measurement of investment and reduce comparability among business units
- l. demonstrate an understanding of the effect international operations can have on performance measurement
- m. define critical success factors and discuss the importance of these factors in evaluating a firm
- n. define the concept of a balanced scorecard and identify its components
- o. identify and describe financial measures, customer satisfaction measures, internal business process measures, and innovation and learning measures and evaluate their relevance for a specific organization using the balanced scorecard
- p. identify and describe the characteristics of successful implementation and use of a balanced scorecard
- q. analyze and interpret a balanced scorecard and evaluate performance on the basis of the analysis
- r. recommend performance measures and a periodic reporting methodology given operational goals and actual results

Section C. Cost Management (25% - Levels A, B, and C)

Part 1 – Section C.1. Measurement concepts

The candidate should be able to:

- a. demonstrate an understanding of the behavior of fixed and variable costs in the long and short terms and how a change in assumptions regarding cost type or relevant range affects these costs
- b. identify cost objects and cost pools and assign costs to appropriate activities
- c. demonstrate an understanding of the nature and types of cost drivers and the causal relationship that exists between cost drivers and costs incurred
- d. demonstrate an understanding of the various methods for measuring costs and accumulating work-in-process and finished goods inventories
- e. identify and calculate the components of cost measurement techniques such as actual costing, normal costing, and standard costing; identify the appropriate use of each technique; and describe the benefits and limitations of each technique
- f. demonstrate an understanding of the characteristics of variable (direct) costing and absorption (full) costing and the benefits and limitations of these measurement concepts
- g. calculate inventory costs, cost of goods sold, and operating profit using both variable costing and absorption costing
- h. demonstrate an understanding of how the use of variable costing or absorption costing affects the value of inventory, cost of goods sold, and operating income
- i. prepare summary income statements using variable costing and absorption costing
- j. determine the appropriate use of joint product and by-product costing
- k. demonstrate an understanding of concepts such as split-off point and separable costs
- l. determine the allocation of joint product and by-product costs using the physical measure method, the sales value at split-off method, constant gross profit (gross margin) method, and the net realizable value method; and describe the benefits and limitations of each method

Part 1 – Section C.2. Costing systems

For each cost accumulation system identified (Job order costing, Process costing, Activity-based costing, Life-cycle costing), the candidate should be able to:

- a. define the nature of the system, understand the cost flows of the system, and identify its appropriate use
- b. calculate inventory values and cost of goods sold
- c. demonstrate an understanding of the proper accounting for normal and abnormal spoilage
- d. discuss the strategic value of cost information regarding products and services, pricing, overhead allocations, and other issues
- e. identify and describe the benefits and limitations of each cost accumulation system

Institute of Certified Management Accountants

- f. demonstrate an understanding of the concept of equivalent units in process costing and calculate the value of equivalent units
- g. define the elements of activity-based costing such as cost pool, cost driver, resource driver, activity driver, and value-added activity
- h. calculate product cost using an activity-based system and compare and analyze the results with costs calculated using a traditional system
- i. explain how activity-based costing can be utilized in service firms
- j. demonstrate an understanding of the concept of life-cycle costing and the strategic value of including upstream costs, manufacturing costs, and downstream costs

Part 1 – Section C.3. Overhead costs

The candidate should be able to:

- a. distinguish between fixed and variable overhead expenses
- b. determine the appropriate time frame for classifying both variable and fixed overhead expenses
- c. demonstrate an understanding of the different methods of determining overhead rates, e.g., plant-wide rates, departmental rates, and individual cost driver rates
- d. describe the benefits and limitations of each of the methods used to determine overhead rates
- e. identify the components of variable overhead expense
- f. determine the appropriate allocation base for variable overhead expenses
- g. calculate the per unit variable overhead expense
- h. identify the components of fixed overhead expense
- i. identify the appropriate allocation base for fixed overhead expense
- j. calculate the fixed overhead application rate
- k. describe how fixed overhead can be over or under applied and how this difference should be accounted for in the Cost of Goods Sold, Work in Process, and Finished Goods accounts
- l. compare and contrast traditional overhead allocation with activity-based overhead allocation
- m. calculate overhead expense in an activity-based costing setting
- n. identify and describe the benefits derived from activity-based overhead allocation
- o. explain why companies allocate the cost of service departments such as Human Resources or Information Technology to divisions, departments, or activities
- p. calculate service or support department cost allocations using the direct method, the reciprocal method, the step-down method, and the dual allocation method
- q. estimate fixed costs using the high-low method and demonstrate an understanding of how regression can be used to estimate fixed costs

Part 1 – Section C.4. Operational Efficiency

The candidate should be able to:

- a. define a just-in-time system and describe its central purpose
- b. identify and describe the operational benefits of implementing a just-in-time system

- c. define the term Kanban and describe how Kanban is used in a just-in-time system
- d. demonstrate an understanding of work cells and how they relate to just-in-time processes
- e. define material resource planning (MRP)
- f. identify and describe the benefits of an MRP system
- g. calculate subunits needed to complete an order for a finished product using MRP
- h. explain the concept of outsourcing and identify the benefits and limitations of choosing this option
- i. demonstrate a general understanding of the theory of constraints
- j. identify the five steps involved in theory of constraints analysis
- k. define throughput costing (super-variable costing) and calculate inventory costs using throughput costing
- l. define and calculate throughput contribution
- m. discuss how the theory of constraints and activity-based costing are complementary analytical tools
- n. describe how capacity level affects product costing, capacity management, pricing decisions and financial statements
- o. explain how using practical capacity as denominator for fixed costs rate enhances capacity management
- p. calculate the financial impact of implementing the above mentioned methods

Part 1. C.5. Business process performance

The candidate should be able to:

- a. define value chain analysis
- b. identify the steps in value chain analysis
- c. explain how value chain analysis is used to better understand a firm's competitive advantage
- d. define, identify and provide examples of a value-added activity and explain how the value-added concept is related to improving performance
- e. demonstrate an understanding of process analysis and business process reengineering
- f. demonstrate an understanding of benchmarking process performance
- g. identify the benefits of benchmarking in creating a competitive advantage
- h. apply activity-based management principles to recommend process performance improvements
- i. explain the relationship among continuous improvement techniques, activity-based management, and quality performance
- j. explain the concept of continuous improvement and how it relates to implementing ideal standards and quality improvements
- k. define best practice analysis and discuss how it can be used by an organization to improve performance
- l. describe and identify the components of the costs of quality, commonly referred to as prevention costs, appraisal costs, internal failure costs, and external failure costs
- m. calculate the financial impact of implementing the above mentioned processes

Section D. Internal Controls (15% - Levels A, B, and C)

Part 1 – Section D.1 Risk assessment, controls, and risk management

The candidate should be able to:

- a. demonstrate an understanding of internal control risk and the management of internal control risk
- b. identify and describe internal control objectives
- c. explain how a company's organizational structure, policies, objectives, and goals, as well as its management philosophy and style, influence the scope and effectiveness of the control environment
- d. identify the Board of Directors' responsibilities with respect to ensuring that the company is operated in the best interest of shareholders
- e. describe how internal controls are designed to provide reasonable (but not absolute) assurance regarding achievement of an entity's objectives involving (i) effectiveness and efficiency of operations, (ii) reliability of financial reporting, and (iii) compliance with applicable laws and regulations
- f. explain why personnel policies and procedures are integral to an efficient control environment
- g. define and give examples of segregation of duties
- h. explain why the following four types of functional responsibilities should be performed by different departments or different people within the same function: (i) authority to execute transactions, (ii) recording transactions, (iii) custody of assets involved in the transactions, and (iv) periodic reconciliations of the existing assets to recorded amounts
- i. demonstrate an understanding of the importance of independent checks and verification
- j. list examples of safeguarding controls
- k. explain how the use of pre-numbered forms, as well as specific policies and procedures detailing who is authorized to receive specific documents, is a means of control
- l. define inherent risk, control risk, and detection risk
- m. describe the major internal control provisions of the Sarbanes-Oxley Act (Sections 302 and 404)
- n. identify the role of the PCAOB in providing guidance on the auditing of internal controls
- o. differentiate between a top-down (risk-based) approach and a bottom-up approach to auditing internal controls
- p. identify the PCAOB preferred approach to auditing internal controls as outlined in Auditing Standard #5
- q. identify and describe the major internal control provisions of the Foreign Corrupt Practices Act
- r. identify and describe the five major components of COSO's Internal Control Framework (the 92 model)

Institute of Certified Management Accountants

- s. assess the level of internal control risk within an organization and recommend risk mitigation strategies
- t. define and distinguish between preventive controls and detective controls

Part 1 – Section D.2 Internal auditing

The candidate should be able to:

- a. define the internal audit function and identify its functions and scope
- b. identify how internal auditors can test compliance with controls and evaluate the effectiveness of controls
- c. explain how internal auditors determine what controls to audit, when to audit, and why
- d. identify and describe control breakdowns and related risks that internal auditors should report to management or to the Board of Directors
- e. define and identify the objectives of a compliance audit and an operational audit

Part 1 – Section D.3 Systems controls and security measures

The candidate should be able to:

- a. describe how the segregation of accounting duties can enhance systems security
- b. identify threats to information systems, including input manipulation, program alteration, direct file alteration, data theft, sabotage, viruses, Trojan horses, and theft
- c. demonstrate an understanding of how systems development controls are used to enhance the accuracy, validity, safety, security, and adaptability of systems input, processing, output, and storage functions
- d. identify procedures to limit access to physical hardware
- e. identify means by which management can protect programs and databases from unauthorized use
- f. identify input controls, processing controls, and output controls and describe why each of these controls is necessary
- g. identify and describe the types of storage controls and demonstrate an understanding of when and why they are used
- h. identify and describe the inherent risks of using the internet as compared to data transmissions over secured transmission lines
- i. define data encryption and describe why there is a much greater need for data encryption methods when using the internet
- j. identify a firewall and its uses
- k. demonstrate an understanding of how flowcharts of activities are used to assess controls
- l. explain the importance of backing up all program and data files regularly, and storing the backups at a secure remote site
- m. define the objective of a disaster recovery plan and identify the components of such a plan

E. Professional Ethics (5% - Levels A, B, and C)

Part 1 – Section E.1 Ethical considerations for management accounting and financial management professionals

Ethics may be tested in conjunction with any topic area.

1. Provisions of **IMA's Statement of Ethical Professional Practice**
2. Evaluation and resolution of ethical issues

Using the standards outlined in **IMA's Statement of Ethical Professional Practice**, the candidate should be able to:

- a. identify and describe the four overarching ethical principles
- b. evaluate a given business situation for its ethical implications
- c. identify and describe relevant standards that may have been violated in a given business situation and explain why the specific standards are applicable
- d. recommend a course of action for management accountants or financial managers to take when confronted with an ethical dilemma in the business environment
- e. evaluate and propose resolutions for ethical issues such as fraudulent reporting, manipulation of analyses, results, and budgets

Certified Management Accountant
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Part 2 - Financial Decision Making

A. Financial Statement Analysis (25% - Levels A, B, and C)

Part 2 – Section A.1. Basic Financial Statement Analysis

For the Statement of Financial Position (Balance Sheet), the Statement of Earnings (Income Statement), Statement of Cash Flows, and the Statement of Changes in Shareholders' Equity, the candidate should be able to:

- a. identify the users of these financial statements and their needs
- b. demonstrate an understanding of the purposes and uses of each statement
- c. identify the major components and classifications of each statement
- d. identify the limitations of each financial statement
- e. identify, describe and calculate how a financial transaction affects the elements of each of the financial statements and the resulting impact on financial ratios
- f. for the Statement of Cash Flows, demonstrate an understanding of the differences between the “direct” and “indirect” methods
- g. for the Balance Sheet and Income Statement prepare and analyze common-size financial statements
- h. for the Balance Sheet and Income Statement prepare and analyze common base year financial statements (percentage of assets and sales, respectively)
- i. for the Balance Sheet and Income Statement calculate growth of key financial line items

Part 2 – Section A.2. Financial Performance Metrics – Financial Ratios

The candidate should be able to:

Liquidity

- a. calculate current assets, current liabilities, and net working capital
- b. analyze working capital by calculating the current ratio, the quick (acid test) ratio, the cash ratio, the cash flow ratio, and the net working capital ratio
- c. explain how changes in one or more of the elements of current assets, current liabilities, or unit sales can change the liquidity ratios and calculate that impact
- d. demonstrate an understanding of the liquidity of current liabilities

Leverage

- e. define solvency
- f. define operating leverage and financial leverage
- g. calculate degree of operating leverage and degree of financial leverage
- h. demonstrate an understanding of the effect on the capital structure and solvency of a company with a change in the composition of debt vs. equity by calculating leverage ratios

Institute of Certified Management Accountants

- i. calculate and interpret the financial leverage ratio, and determine the effect of a given change in capital structure on this ratio
- j. calculate and interpret the following ratios: total debt to total capital, debt to equity, long-term debt to equity, and debt to total assets
- k. define, calculate and interpret the following ratios: fixed charge coverage (earnings to fixed charges), interest coverage (times interest earned), and cash flow to fixed charges
- l. discuss how capital structure decisions affect the risk profile of a firm

Activity

- m. calculate and interpret accounts receivable turnover, inventory turnover and accounts payables turnover
- n. calculate and interpret days sales outstanding in receivables, days sales in inventory, and days purchases in accounts payable
- o. define and calculate the operating cycle and cash cycle of a firm
- p. calculate and interpret total assets turnover and fixed asset turnover

Profitability

- q. calculate and interpret gross profit margin percentage, operating profit margin percentage net profit margin percentage and Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) margin percentage
- r. calculate and interpret return on assets (ROA) and return on equity (ROE)

Market

- s. calculate and interpret the market/book ratio, the price/earnings ratio and price to EBITDA ratio
- t. calculate and interpret book value per share
- u. identify and explain the limitations of book value per share
- v. calculate and interpret basic and diluted earnings per share
- w. calculate and interpret earnings yield, dividend yield, dividend payout ratio and shareholder return

General

- x. identify the limitations of ratio analysis
- y. demonstrate a familiarity with the sources of financial information about public companies and industry ratio averages
- z. evaluate the performance of an entity based on multiple ratios

Part 2 – Section A.3. Profitability analysis

- a. demonstrate an understanding of the factors that contribute to inconsistent definitions of “equity,” “assets” and “return” when using ROA and ROE
- b. analyze return on assets and return on equity using the DuPont model
- c. calculate ROE based on the DuPont model
- d. describe how the DuPont model enhances the analysis of ROE calculations
- e. determine the effect on return on total assets of a change in one or more elements of the financial statements
- f. disaggregate return on common equity into profit margin (net margin) on sales, total asset turnover, and equity multiplier (leverage) and calculate these ratios

- g. identify factors to be considered in measuring income, including estimates, accounting methods, disclosure incentives, and the different needs of users
- h. explain the importance of the source, stability, and trend of sales and revenue
- i. demonstrate an understanding of the relationship between revenue and receivables and revenue and inventory
- j. determine the effect on revenue of changes in revenue recognition and measurement methods
- k. analyze company cost of sales by calculating and interpreting the gross profit margin
- l. distinguish between gross profit margin, operating profit margin and net profit margin and analyze the effects of changes in the components of each
- m. define and perform a variation analysis (percentage change over time)
- n. calculate and interpret sustainable equity growth

Part 2 – Section A.4. Analytical Issues in Financial Accounting

*Note: The focus of this section is analysis of financial statements. With the exception of the Statement of Cash Flows, preparation of financial statements will **not** be required.*

The candidate should be able to:

- a. demonstrate an understanding of the impact of foreign exchange fluctuations
 - 1. identify and explain issues in the accounting for foreign operations (e.g., historical vs. current rate and the treatment of translation gains and losses)
 - 2. define functional currency
 - 3. distinguish between translation (all-current method) and remeasurement (temporal method) and describe the effects on the income statement and the balance sheet
 - 4. calculate the financial ratio impact of a change in exchange rates
 - 5. determine the impact on reported cash flow of a change in exchange rates
 - 6. discuss the possible impact on management and investor behavior of volatility in reported earnings

Note: Detailed knowledge of SFAS 52 and/or IAS 21 is not required, although familiarity with the terminology and the impact of various treatments on the financial statements is required.

- b. demonstrate an understanding of the impact of inflation on financial ratios and the reliability of financial ratios
- c. off-balance sheet financing
 - 1. define and explain off-balance sheet financing
 - 2. identify and describe the following forms of off-balance sheet financing: (i) leases; (ii) special purpose entities; (iii) sale of receivables; and (iv) joint ventures
 - 3. explain why companies use off-balance sheet financing
 - 4. calculate the impact of off-balance sheet financing on the debt-to-equity ratio

Institute of Certified Management Accountants

- d. prepare and/or reconcile the Statement of Cash Flows to the Income Statement and the Balance Sheet using the indirect method
- e. describe how to adjust financial statements for changes in accounting treatments (changes, estimates, and errors) and how these adjustments impact financial ratios
- f. Major differences in reported financial results when using GAAP vs. IFRS and the impact on analysis
 - 1. identify and describe the following differences between U.S. GAAP and IFRS: (i) revenue recognition, with respect to the sale of goods, services, deferred receipts and construction contracts; (ii) expense recognition, with respect to share-based payments and employee benefits; (iii) intangible assets, with respect to development costs and revaluation; (iv) inventories, with respect to costing methods, valuation and write-downs (e.g., LIFO); (v) leases, with respect to leases of land and buildings; (vi) long-lived assets, with respect to revaluation, depreciation, and capitalization of borrowing costs; (vii) impairment of assets, with respect to determination, calculation and reversal of loss; and (viii) financial statement presentation, with respect to extraordinary assets and changes in equity
 - 2. determine the correct accounting treatment under U.S. GAAP and under IFRS for each of the differences above
 - 3. calculate the impact on income, assets, liabilities, and equity, as well as financial ratios, of a change from U.S. GAAP to IFRS for the differences listed above
- g. Fair Value Accounting
 - 1. describe how the disclosure of fair value can supplement ratio analysis
 - 2. explain fair value accounting (mark-to-market) and discuss the advantages and disadvantages of this method compared to the historical method
 - 3. compare financial ratios based on historical cost to those based on fair value
- h. distinguish between book value and market value; and distinguish between accounting profit and economic profit
- i. identify the determinants and indicators of earnings quality

B. Corporate Finance (25% - Levels A, B, and C)

Part 2 – Section B.1. Risk and return

The candidate should be able to:

- a. calculate rates of return
- b. identify and demonstrate an understanding of systematic (market) risk and unsystematic (company) risk
- c. identify and demonstrate an understanding of credit risk, foreign exchange risk, interest rate risk, market risk, industry risk and political risk
- d. demonstrate an understanding of the relationship between risk and return
- e. calculate expected return, standard deviation of return and coefficient of variation

Institute of Certified Management Accountants

- f. distinguish between individual security risk and portfolio risk
- g. demonstrate an understanding of diversification
- h. define beta and explain how a change in beta impacts a security's price
- i. demonstrate an understanding of the Capital Asset Pricing Model (CAPM) and calculate the expected risk-adjusted returns using CAPM
- j. identify the Arbitrage Pricing Theory (APT) and the Fama-French model as alternatives to CAPM (calculations not required)

Part 2 – Section B.2. Managing financial risk

The candidate should be able to:

- a. describe and calculate business risk
- b. explain how operating leverage can increase return and business risk concurrently
- c. describe and calculate financial risk
- d. explain how financial leverage can increase return and financial risk concurrently
- e. explain how portfolio theory can be used to decrease the financial risk of a business
- f. demonstrate an understanding of how individual business activities can affect the business's portfolio risk
- g. demonstrate an understanding of how individual securities affect portfolio risk
- h. define hedging and demonstrate how hedging can be used to manage financial risk
- i. demonstrate an understanding of how the concept of correlation is used in risk management
- j. explain the significance of a positive or a negative covariance or correlation of stocks within a two-stock portfolio
- k. evaluate alternative strategies and select the strategy that is designed to minimize risk and/or maximize reward

Part 2 – Section B.3. Financial instruments

The candidate should be able to:

- a. describe the term structure of interest, and explain why it changes over time
- b. define and identify the characteristics of common stock and preferred stock
- c. identify and describe the basic features of a bond such as maturity, par value, coupon rate, provisions for redeeming, conversion provisions, covenants, options granted to the issuer or investor, indentures, and restrictions
- d. identify and evaluate debt issuance or refinancing strategies
- e. value bonds, common stock, and preferred stock using discounted cash flow methods
- f. demonstrate an understanding of duration as a measure of bond interest rate sensitivity
- g. explain how income taxes impact financing decisions
- h. define and demonstrate an understanding of derivatives and their uses

Institute of Certified Management Accountants

- i. identify and describe the basic features of futures and forwards
- j. distinguish a long position from a short position
- k. define options and distinguish between a call and a put by identifying the characteristics of each
- l. define exercise price, strike price, option premium and intrinsic value
- m. demonstrate an understanding of the interrelationship of the variables that comprise the value of an option; e.g., relation between exercise price and strike price, and value of call
- n. calculate total profit on a combined option position
- o. define swap and calculate net payment on interest rate and foreign exchange swaps
- p. demonstrate a basic understanding of the Black-Scholes and the binomial option-valuation models and how a change in one variable will affect the value of the option (calculation not required)
- q. define and identify characteristics of other sources of long-term financing, such as leases, convertible securities, warrants, and retained earnings

Part 2. Section B.4. Cost of capital

The candidate should be able to:

- a. define the cost of capital and demonstrate an understanding of its applications in capital structure decisions
- b. determine the weighted average (historical) cost of capital and the cost of its individual components
- c. calculate the marginal cost of capital
- d. explain the importance of using marginal cost as opposed to historical cost
- e. demonstrate an understanding of the use of the cost of capital in capital investment decisions
- f. demonstrate an understanding of how income taxes impact capital structure and capital investment decisions

Part 2 – Section B.5. Managing current assets

The candidate should be able to:

Working capital

- a. define working capital and identify its components
- b. explain the benefit of short-term financial forecasts in the management of working capital

Cash

- c. identify and describe factors influencing the levels of cash
- d. identify and explain the three motives for holding cash
- e. prepare forecasts of future cash flows
- f. identify methods of speeding up cash collections
- g. calculate the net benefit of a lockbox system
- h. define concentration banking and discuss how firms utilize it
- i. demonstrate an understanding of the uses of compensating balances

Institute of Certified Management Accountants

- j. identify methods of slowing down disbursements
- k. define payable through draft and zero balance account
- l. demonstrate an understanding of disbursement float and overdraft systems

Marketable securities

- m. identify and describe reasons for holding marketable securities
- n. define the different types of marketable securities, including money market instruments, T-bills, Treasury notes, Treasury bonds, repurchase agreements, Federal agency securities, bankers' acceptances, commercial paper, negotiable CDs, Eurodollar CDs, and other marketable securities
- o. evaluate the trade-offs among the variables in marketable security selections, including safety, marketability, yield, maturity, and taxability
- p. demonstrate an understanding of the risk and return trade-off

Accounts receivable

- q. identify reasons for carrying accounts receivable and the factors influencing the level of receivables
- r. calculate days sales in receivables (average collection period)
- s. demonstrate an understanding of the impact of changes in credit terms or collection policies on accounts receivable, working capital and sales volume
- t. define default risk
- u. identify and explain the factors involved in determining an optimal credit policy

Inventory

- v. identify reasons for carrying inventory and the factors influencing its level
- w. identify and calculate the costs related to inventory, including carrying costs, ordering costs and shortage (stockout) costs, and determine the optimum safety stock level
- x. define lead time and safety stock
- y. demonstrate an understanding of Economic Order Quantity (EOQ) and how a change in one variable would affect the EOQ (calculation not required)
- z. define Just-in-Time (JIT) inventory management systems

Short-term credit and working capital cost management

- aa. demonstrate an understanding of how risk affects a firm's approach to its current asset financing policy (aggressive, conservative, etc.)
- bb. identify and describe the different types of short-term credit, including trade credit, short-term bank loans, commercial paper, lines of credit, and bankers' acceptances
- cc. estimate the annual cost and effective annual interest rate of not taking a cash discount
- dd. calculate the effective annual interest rate of a bank loan with a compensating balance requirement and/or a commitment fee
- ee. demonstrate an understanding of factoring accounts receivable and calculate the cost of factoring
- ff. explain the maturity matching or hedging approach to financing
- gg. demonstrate an understanding of the factors involved in managing the costs of working capital

Institute of Certified Management Accountants

General

- hh. recommend a strategy for managing current assets that would fulfill a given objective

Part 2 – Section B.6. Raising capital

The candidate should be able to:

- a. identify the characteristics of the different types of financial markets and exchanges
- b. demonstrate an understanding of the concept of market efficiency, including the strong form, semi-strong form, and weak form of market efficiency
- c. describe the role of the credit rating agencies
- d. demonstrate an understanding of the roles of investment banks, including underwriting, advice, and trading
- e. define offering price and calculate spread
- f. identify and define the terms best-efforts distribution, syndicate, and tombstone ad
- g. identify the information that must be supplied when registering with the SEC
- h. distinguish between a public offering and a private placement
- i. define Initial Public Offerings (IPOs)
- j. define subsequent/secondary offerings
- k. define the different types of dividends, including cash dividends, stock dividends, and stock splits
- l. identify and discuss the factors that influence the dividend policy of a firm
- m. demonstrate an understanding of the dividend payment process for both common and preferred stock
- n. define share repurchase and explain why a firm would repurchase its stock
- o. define dividend reinvestment plans
- p. define insider trading and explain why it is illegal
- q. describe lease financing, explain its benefits and disadvantages, and calculate the net advantage to leasing using discounted cash flow concepts

Part 2 – Section B.7. Corporate restructuring

The candidate should be able to:

- a. demonstrate an understanding of mergers, acquisitions, and leveraged buyouts
- b. identify defenses against takeovers
- c. identify and describe divestiture concepts such as spin-offs, split-ups, equity carve-outs, and tracking stock
- d. evaluate a company's financial situation and determine if a restructuring would be beneficial to the shareholders
- e. identify possible synergies in targeted mergers and acquisitions
- f. define bankruptcy and identify the different types of bankruptcy
- g. determine the priority of creditors in a bankruptcy proceeding
- h. differentiate between reorganization and liquidation

Part 2 – Section B.8. International finance

The candidate should be able to:

- a. demonstrate an understanding of foreign currencies and how prices are determined in the foreign exchange market
- b. identify the variables that affect exchange rates
- c. calculate whether a currency has depreciated or appreciated against another currency over a period of time
- d. demonstrate how currency futures, currency swaps, and currency options can be used to manage exchange rate risk
- e. calculate the net profit/loss of cross-border transactions
- f. recommend methods of managing exchange rate risk and calculate the net profit/loss of your strategy
- g. identify and explain the benefits of international diversification
- h. identify and explain common trade financing methods, including cross-border factoring, letters of credit, banker's acceptances, forfaiting, and countertrade
- i. demonstrate an understanding of how transfer pricing is used by multinational firms to manage their effective worldwide tax rate
- j. define and discuss political risk

C. Decision Analysis and Risk Management (25% - Levels A, B, and C)

Part 2 – Section C.1 Cost/volume/profit analysis

The candidate should be able to:

- a. demonstrate an understanding of how cost/volume/profit (CVP) analysis (break-even analysis) is used to examine the behavior of total revenues, total costs, and operating income as changes occur in output levels, selling prices, variable costs per unit, or fixed costs
- b. calculate operating income at different operating levels
- c. differentiate between costs that are fixed and costs that are variable with respect to levels of output
- d. explain why the classification of fixed vs. variable costs is affected by the time-frame being considered
- e. demonstrate an understanding of the behavior of total revenues and total costs in relation to output within a relevant range
- f. calculate contribution margin per unit and total contribution margin
- g. calculate the breakeven point in units and dollar sales to achieve targeted operating income or targeted net income
- h. demonstrate an understanding of how changes in unit sales mix affect operating income in multiple-product situations
- i. calculate multiple-product breakeven points given percentage share of sales and explain why there is no unique breakeven point in multiple-product situations
- j. define, calculate and interpret margin of safety and margin of safety ratio
- k. explain how sensitivity analysis can be used in CVP analysis when there is uncertainty about sales

Institute of Certified Management Accountants

1. analyze and recommend a course of action using CVP analysis
- m. demonstrate an understanding of the impact of income taxes on CVP analysis

Part 2 – Section C.2 Marginal analysis

The candidate should be able to:

- a. identify and define relevant costs (incremental, marginal, or differential costs), sunk costs, avoidable costs, explicit and implicit costs, and relevant revenues
- b. explain why sunk costs are not relevant in the decision-making process
- c. demonstrate an understanding of and calculate opportunity costs
- d. calculate relevant costs given a numerical scenario
- e. differentiate between economic concepts of revenues and costs and accounting concepts of revenues and costs
- f. define and calculate marginal cost and marginal revenue
- g. identify and calculate total cost, average fixed cost, average variable cost, and average total cost
- h. demonstrate proficiency in the use of marginal analysis for decisions such as (a) introducing a new product or changing output levels of existing products, (b) accepting or rejecting special orders, (c) making or buying a product or service, (d) selling a product or performing additional processes and selling a more value-added product, and (e) adding or dropping a segment
- i. calculate the effect on operating income of a decision to accept or reject a special order when there is idle capacity and the order has no long-run implications
- j. identify and describe qualitative factors in make-or-buy decisions, such as product quality and dependability of suppliers
- k. calculate the effect on operating income of a make-or-buy decision
- l. calculate the effects on operating income of a decision to sell or process further; and of a decision to drop or add a segment
- m. identify the effects of changes in capacity on production decisions
- n. demonstrate an understanding of the impact of income taxes on marginal analysis
- o. recommend a course of action using marginal analysis

Part 2. Section C.3. Pricing

The candidate should be able to:

- a. define market comparables
- b. differentiate between a cost-based approach and a market-based approach to setting prices
- c. calculate selling price using a cost-based approach
- d. demonstrate an understanding of how the pricing of a product or service is affected by the demand for and supply of the product or service, as well as the market structure within which it operates
- e. demonstrate an understanding of the impact of cartels on pricing
- f. demonstrate an understanding of the short-run equilibrium price for the firm in (1) pure competition; (2) monopolistic competition; (3) oligopoly; and (4) monopoly using the concepts of marginal revenue and marginal cost

- g. identify techniques used to set prices based on understanding customers' perceptions of value, competitors' technologies, products and costs
- h. define and demonstrate an understanding of target pricing and target costing and identify the main steps in developing target prices and target costs
- i. define value engineering
- j. calculate the target operating income per unit and target cost per unit
- k. define and distinguish between a value-added cost and a nonvalue-added cost
- l. define the pricing technique of cost plus target rate of return
- m. calculate the price elasticity of demand using the midpoint formula
- n. define and explain elastic and inelastic demand
- o. estimate total revenue given changes in prices and demand as well as elasticity
- p. discuss how pricing decisions can differ in the short-run and in the long-run
- q. define product life cycle and explain why pricing decisions might differ over the life of a product
- r. evaluate and recommend pricing strategies under specific market conditions

Part 2. Section C.4. Risk assessment

The candidate should be able to:

- a. identify and explain the different types of risk, including hazard risks, financial risks, operational risks, and strategic risks
- b. define operational risk as the risk of loss from inadequate or failed internal processes, people, and systems
- c. recognize that operational risk includes legal risk and compliance risk
- d. demonstrate an understanding of how volatility and time impact risk
- e. define the concept of capital adequacy (i.e., solvency, liquidity, reserves, sufficient capital, etc.)
- f. explain the use of probabilities in determining exposure to risk and calculate expected loss given a set of probabilities
- g. define the concepts of unexpected loss and maximum possible loss (extreme or catastrophic loss)
- h. identify strategies for risk response (or treatment), including actions to avoid, retain, reduce (mitigate), transfer (share), and exploit (accept) risks
- i. define risk transfer (e.g., purchasing insurance, issuing debt)
- j. demonstrate an understanding of the concept of residual risk and distinguish it from inherent risk
- k. identify and explain the benefits of risk management
- l. identify and describe the key steps in the risk management process
- m. explain how attitude toward risk might affect the management of risk
- n. demonstrate a general understanding of the use of liability/hazard insurance to mitigate risk (detailed knowledge not required)
- o. identify methods of managing operational risk
- p. identify and explain financial risk management methods
- q. identify and explain qualitative risk assessment tools including risk identification, risk ranking and risk maps

- r. identify and explain quantitative risk assessment tools including cash flow at risk, earnings at risk, earnings distributions and earnings per share (EPS) distributions
- s. identify and explain Value at Risk (VaR) (calculations not required)
- t. define Enterprise Risk Management (ERM) and identify and describe key objectives, components and benefits of an ERM program and the relationship between them
- u. identify and describe the critical elements of an ERM approach to risk management as outlined in one of the major conceptual frameworks (e.g., COSO, Basel II, Casualty Actuarial Society, Australian/New Zealand Risk Standard, etc.)
- v. identify event identification techniques and provide examples of event identification within the context of an ERM approach
- w. explain the role of corporate governance, risk analytics, and portfolio management in an ERM program
- x. evaluate scenarios and recommend risk mitigation strategies
- y. prepare a cost-benefit analysis and demonstrate an understanding of its uses in risk assessment and decision making

Section D. Investment Decisions (20% - Levels A, B, and C)

Part 2 – Section D.1. Capital budgeting process

The candidate should be able to:

- a. define capital budgeting and identify the steps or stages undertaken in developing and implementing a capital budget for a project
- b. identify and calculate the relevant cash flows of a capital investment project on both a pretax and after-tax basis
- c. demonstrate an understanding of how income taxes affect cash flows
- d. distinguish between cash flows and accounting profits and discuss the relevance to capital budgeting of incremental cash flow, sunk cost, and opportunity cost
- e. explain the importance of changes in net working capital in capital budgeting
- f. discuss how the effects of inflation are reflected in capital budgeting analysis
- g. define hurdle rate
- h. identify and discuss qualitative considerations involved in the capital budgeting decision
- i. describe the role of the post-audit in the capital budgeting process

Part 2 – Section D.2. Discounted cash flow analysis

The candidate should be able to:

- a. demonstrate an understanding of the two main discounted cash flow (DCF) methods, net present value (NPV) and internal rate of return (IRR)
- b. calculate NPV and IRR
- c. demonstrate an understanding of the decision criteria used in NPV and IRR analyses to determine acceptable projects

- d. compare NPV and IRR focusing on the relative advantages and disadvantages of each method, particularly with respect to independent versus mutually exclusive projects and the “multiple IRR problem”
- e. explain why NPV and IRR methods can produce conflicting rankings for capital projects if not applied properly
- f. identify assumptions of NPV and IRR
- g. evaluate and recommend project investments on the basis of DCF analysis

Part 2 – Section D.3. Payback and discounted payback

The candidate should be able to:

- a. demonstrate an understanding of the payback and discounted payback methods
- b. identify the advantages and disadvantages of the payback and discounted payback methods
- c. calculate payback periods and discounted payback periods

Part 2 – Section D.4. Ranking investment projects

The candidate should be able to:

- a. define independent projects and mutually exclusive projects
- b. define capital rationing
- c. rank capital investment projects and recommend optimal investments using the profitability index
- d. determine when the profitability index would be recommended over the NPV rule
- e. identify and discuss the problems inherent in comparing projects of unequal scale and/or unequal lives
- f. identify and explain alternative solutions to the ranking problem, including internal capital markets and linear programming

Part 2 – Section D.5. Risk analysis in capital investment

The candidate should be able to:

- a. identify alternative approaches to dealing with risk in capital budgeting
- b. demonstrate and understanding of and calculate certainty equivalents
- c. distinguish among sensitivity analysis, scenario analysis, and Monte Carlo simulation as risk analysis techniques
- d. explain why a rate specifically adjusted for risk should be used when project cash flows are more or less risky than is normal for a firm
- e. explain how the value of a capital investment is increased if consideration is given to the possibility of adding on, speeding up, slowing up, or discontinuing early
- f. demonstrate an understanding of real options and identify examples of the different types of real options (calculations not required)

Part 2 – Section D.6. Valuation

The candidate should be able to:

- a. identify the key variables that should be used in valuing stocks and companies
- b. demonstrate how discounted cash flow analysis can be used to analyze stocks, acquisitions and divestitures
- c. demonstrate an understanding of required rate of return concepts
- d. explain the importance of beta and the CAPM in valuation
- e. calculate a required rate of return using the Capital Asset Pricing Model (CAPM)
- f. explain the concept of a risk premium and why discount rates higher (or lower) than the weighted average cost of capital might be appropriate in valuation
- g. explain the importance of growth in valuation
- h. explain the importance of cash flows (and earnings) in valuation
- i. analyze financial statements to develop operating cash flows and forecast growth in cash flows
- j. explain how changes in the discount rate will affect the valuation for stocks, acquisitions or divestitures
- k. explain the use of sensitivity analysis in valuation
- l. use the constant growth dividend discount model to value stocks and demonstrate an understanding of the two-stage dividend discount model
- m. demonstrate an understanding of relative or comparable valuation methods, such as price/earnings (P/E) ratios, market/book ratios, and price/sales ratios
- n. value a business, a business segment, and a business combination using discounted cash flow methods
- o. value a business using relative or comparable valuation methods (P/E ratios, etc.)
- p. explain how income taxes impact valuation
- q. explain how real options affect the valuation of a company
- r. evaluate a proposed business combination and make a recommendation based on both quantitative and qualitative considerations

Section E. Professional Ethics (5% - Levels A, B, and C)

Ethics may be tested in conjunction with any topic area.

Part 2 – Section E.1. Ethical considerations for the organization

The candidate should be able to:

- a. identify the purpose of the U.S. Foreign Corrupt Practices Act
- b. identify the practices that the U.S Foreign Corrupt Practices Act prohibits, and explain how to apply this Act to typical business situations
- c. apply relevant provisions of IMA's Statement on Management Accounting, "Values and Ethics: From Inception to Practice" to typical business situations
- d. discuss corporate responsibility for ethical conduct
- e. explain why it is important for an organization to have a Code of Conduct
- f. demonstrate an understanding of the ways ethical values benefit an organization
- g. demonstrate an understanding of the differences between ethical and legal behavior
- h. demonstrate an understanding of role of "leadership by example" or "tone at the top" in determining an organization's ethical environment
- i. explain the importance of human capital to an organization in creating a climate where "doing the right thing" is expected (i.e., hiring the right people, providing them with training, and practicing consistent values-based leadership)
- j. explain how an organization's culture impacts its behavioral values
- k. explain the importance of an organization's core values in explaining its ethical behavior
- l. discuss the importance of employee training to maintaining an ethical organizational culture
- m. identify who should receive the employee training, what its focus should be and what topics the training should cover
- n. describe the following methods to monitor ethical compliance: human performance feedback loop and survey tools
- o. explain the importance of a Whistleblowing Framework (e.g., Ethics Helpline) to maintaining an ethical organizational culture
- p. identify the requirements of SOX Section 406 - Code of Ethics for Senior Financial Officers
- q. discuss the issues organizations face in applying their values and ethical standards internationally
- r. demonstrate an understanding of the relationship between ethics and internal controls (comprehensive framework of corporate ethical behavior is a prerequisite for an effective system of internal control)
- s. Describe three tools that can be used to identify process controls related to ethical and behavioral issues