NINJA NOTES

Business Analysis & Reporting 2026

Introduction

Content Area Allocation

The following table summarizes the content areas and the allocation of content tested in the BAR section of the CPA Exam:

Area I	Business Analysis	40% - 50%
Area II	Technical Accounting and Reporting	35% - 45%
Area III	State and Local Governments	10% - 20%

Skill Allocation

Remembering and Understanding	10% - 20%
Application	45% - 55%
Analysis	30% - 40%
Evaluation	-

Scoring Weight

The table below presents the scoring weight of MCQs and TBSs

	Multiple-Choice Questions (MCQs)	Tasked-Based Simulations (TBSs)
BAR - Discipline	50%	50%

Section Time and Question Type

The table below presents the design of the Exam by section time and question type.

	Section Time	Multiple-Choice Questions (MCQs)	Tasked-Based Simulations (TBSs)
BAR - Discipline	4 Hours	50	7

Content

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Strategic Planning & Budgeting

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Strategic Planning & Budgeting

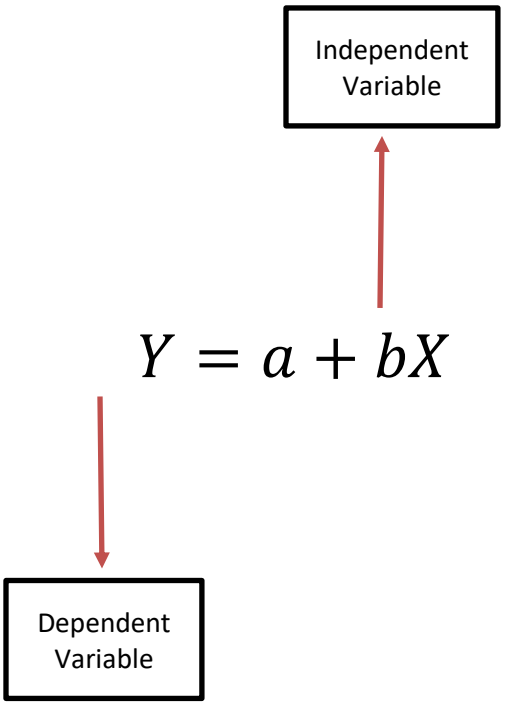
Strategy

- Levels of Strategy
    - Corporate Strategy
        - The corporate strategy addresses issues facing the whole company.
        - The corporate strategy helps an organization decide the industries and businesses it should operate to maximize profitability.
    - Business Strategy
        - Business strategy involves decision-making processes to determine how a business segment operates and succeeds within its industry.
    - Functional Strategy
        - Every business division has different functions like marketing, operations, finance, sales, human resources, etc.
        - Functional-level strategy develops plans, objectives, and guidelines for each of these departments and functions, such as to maximize the effectiveness and efficiency of operations.
- Long-term Mission and Goals
    - Vision
        - The vision statement is the organization's objectives expressed in terms of contribution to society.
        - For example, Tesla's vision statement is: "To accelerate the world's transition to sustainable energy."
    - Mission
        - The mission statement refers to how an organization intends to create value for its stakeholders.
        - The mission statement is based on the vision statement and explains how an organization will achieve its vision.
        - For example, Tesla's mission statement is, "To create the most compelling car company of the 21st century by driving the world's transition to electric vehicles."

- Goals
  - Strategic Goals
    - Strategic goals are long-term in nature and deal with the entity's strategic policies.
    - For example, "Acquire 30% market share of United States automobile industry by 2030."
  - Tactical Goals
    - Tactical goals, on the other hand, are short-term in nature, and these ensure the achievement of strategic goals.
    - For example, "Increase production capacity by 20%."
- Objectives
  - Objectives are the plan of actions and should be specific, measurable, attainable, realistic, and timely (SMART).
  - For example, "Purchase additional machinery that would increase production capacity in the next 6-months."

Forecasting Techniques

- Regression Analysis
  - Regression analysis is a mathematical technique used to predict the value of the dependent variable based upon the value of the independent variable.
  - Regression Equation



  - Multiple R
    - Coefficient of Correlation (R)
    - Measures the degree of linearity in the relationship between two variables
    - Between +1 and -1
      - Perfect Positive Correlation = 1
      - Perfect Negative Correlation = -1
      - No Correlation = 0
  - R-Square
    - Coefficient of Determination
    - Square of Coefficient of Correlation (R2)

        - Measures the effect of changes in one independent variable on another dependent variable
        - Between 1 and 0
            - Higher the value, Higher the explaining power of independent variable
    - Standard Error
        - Measures the accuracy and precision of predictions made using regression equation
    - T-Stat
        - Relationship of independent variable relative to dependent variable
            - Substantial and Long-Term Relationship
            - T-Stat of 2 or More is Significant, while 3 or More is Preferred
    - Advantages of Regression Analysis
        - Simplicity
        - Multiple Data Points
    - Disadvantages of Regression Analysis
        - Effect of Outliers
        - Assumption of Linearity
- Learning Curve Analysis
    - Graphic representation of relationship between productivity and experience
    - Useful for forecasting & budgeting labor costs
    - Learning Curve represents that people are much slower at performing a task for the first time, than they would be performing it for the 100th time
    - Cumulative Average-Time Learning Model
        - Learning curve applies at the average time taken to manufacture the product
        - Average time declines as production doubles
    - Advantages of Learning Curve Analysis
        - Accuracy

        - Planning
    - Disadvantages of Learning Curve Analysis
        - Constant Learning Rate
        - Relevance

- Expected Value Analysis
    - Prediction technique using the probability distribution
    - Allows Managers to make Decisions Resulting in Highest Expected Profit or Lowest Expected Loss
    - $Expected\ Value = \Sigma\ X \text{ x } P(X)$
    - Advantages of Expected Value Analysis
        - Multiple Scenarios
        - Simplicity
    - Disadvantages of Expected Value Analysis
        - Based on Estimates
        - Not the Most Likely Outcome

- Other Forecasting Tools
    - Sensitivity Analysis
        - Analysis of What-If Scenarios to Evaluate Possible Outcomes
        - Financial Estimate of Sensitivity of Scenarios to Change in Circumstances
        - Use of Probability Theory
            - Firms can Prepare for the Worst Case, Best Case &Most Likely Scenario
    - Time Series Analysis and Smoothing
        - Time Series Analysis
            - Trend Analysis
            - Measures Variables against Time

        - Time is the Independent Variable
    - Smoothing
        - Part of Time Series Analysis
        - Smoothening out random & uncertain fluctuations from the irregular components of a time series
- Decision Tree Analysis
    - Allows managers to choose outcome with highest expected payoff
    - Each Possible Outcomes = Branches of a Tree
    - Expected Payoff = Possible Payoff x Probability
- Monte-Carlo Simulations
    - Computer-Based Statistical Technique
    - Runs multiple simulations and generates values for a random variable at various probability distribution

Budgeting Methodologies

- A Budget may be defined as a plan for future operations expressed in dollars or units, or both.
- Master Budgets
    - A Master Budget provides a blueprint for the organization.
    - A Master Budget is divided into two parts (Operating Budgets and Financial Budgets), which include all of the following budgets from various functions:

Operating Budgets	Financial Budgets
Sales Budget	Cash Budget
Production Budget	Capital Budget
Direct Materials Budget	
Direct Labor Budget	
Overhead Budget	
Cost of Goods Sold Budget	
Selling and Administrative Expense Budget	

- Flexible Budgeting
  - Flexible Budgets
    - Based on Actual Level of Output
    - Provides for Better Comparison with Actual Costs
  - Preparation
    - Budgeted Rates x Actual Level of Activity
  - Example
    - Direct Materials Budget with 100,000 Units at a Standard Cost of $2 per Unit. Actual Production was 80,000 units at of $2.1 per unit

	Static Budget	Flexible	Actual
Units	100,000 units	80,000 units	80,000 units
Cost per Unit	$2	$2	$2.1
Total Direct Material Cost	$200,000	$160,000	$168,000

  - Benefits
    - Allows Estimation of Income at More than One Level of Output
    - As an Evaluation Tool allows for Fair Comparison
    - As an Evaluation Tool allows for Easy Variance Analysis
- Continuous (Rolling) Budgeting
  - Additional period added at the end of each budgeting period
    - Ensure sufficient number of periods planned
    - Constantly updates budget to the constantly changing operating environment
  - Benefits of Continuous Budgeting
    - Allows for Increased Alignment of Short-Term Goals with Long-Term Strategy
    - More relevant and updated budgets, increases the effectiveness of operations
    - Budgeting is broken into smaller, more manageable parts

- Zero-Based Budgeting
    - Starts from Scratch
    - Forward-Looking
    - Focused on Constant Cost Justification
    - Classifies Budget Requests on the Basis of Benefits Arising from Each activity
- Incremental Budgeting
    - Incremental changes made to prior period’s budget
    - Changes are based on preceding year's results & future year's expectations
- Activity-Based Budgeting
    - Budgeting Technique
        - Budgets are prepared using activity-based costing
        - Overhead allocation using multiple cost drivers
    - Advantages
        - Increased Budget Accuracy
        - Judicious Consumption of Common Resources
    - Disadvantages
        - Expensive
        - Estimation Errors
- Project Budgeting
    - Budgeting for specific projects or assignments
    - Treated as a separate entity
    - All costs are tracked independently from rest of the organization
- Life-Cycle Budgeting
    - Life-Cycle Budgeting focuses on individual products and attempts to budget the costs of the product over the entire life cycle from research and development to customer support.

Operating Budget

- Sales Budget
    - The first step in the budgeting process (given the goals and policies of operation) is to forecast the level of sales for the budget period.
    - Sales budget is calculated: Forecasted Units x Forecasted Price
    - Example
        - Ninja Company, which is preparing the upcoming quarter budget (January-March), projected the following sales figures. Prepare the sales budget:

Month	Forecasted Units	Forecasted Sales Price ($)	Budgeted Sales ($)
December	10,000	$50	$500,000
January	12,000	$50	$600,000
February	15,000	$50	$750,000
March	18,000	$60	$1,080,000
April	20,000	$60	$1,200,000
May	22,000	$60	$1,320,000

Budgeted Sales (January, February & March)	$2,430,000

- Production Budget
  - The production budget calculates the number of units required to be produced to meet the expected sales targets, usually determined by the sales or marketing departments.

	Units
Opening Inventory	XXX
Add: Production	**XXX**
Less: Cost of Goods Sold	(XXX)
Ending Inventory	XXX

  - Example
    - Ninja Company's policy is to maintain finished goods inventory levels at 30% of the following month's budgeted sales units. Prepare the production budget:

Month	Budgeted Sales Units	Ending inventory (30% of Next Month's COGS)	Opening Inventory (Last Month's Ending Inventory)
December	10,000	3,600	-
January	12,000	4,500	3,600
February	15,000	5,400	4,500
March	18,000	6,000	5,400
April	20,000	6,600	6,000
May	22,000	0	6,600

	January	February	March	April
Opening Inventory	3,600	4,500	5,400	6,000
Add: Production (Balancing Figure)	12,900	15,900	18,600	20,600
Less: Units Sold	(12,000)	(15,000)	(18,000)	(20,000)
Ending Inventory	4,500	5,400	6,000	6,600

Budgeted Production (January, February & March)	47,400 units

- Direct Materials Budget
  - Direct Materials Usage Budget
    - Based on the production budget, the company first determines the units and cost of direct material required for production. This is done using the Direct Material Usage Budget.
    - Direct Materials Usage Budget = Units to be Produced x No. of pounds per Finished Good x Cost per Pound
    - Example
      - Ninja Company requires 2 pounds of direct material to produce 1 unit of finished goods. Each unit of direct material costs $5. Prepare a direct material usage budget.

	January	February	March	April
Production	12,900 units	15,900 units	18,600 units	20,600 units
No. of pounds per Finished Good	2	2	2	2
Pounds of Direct Material Required	25,800	31,800	37,200	41,200
Cost per Pound	$5	$5	$5	$5
Direct Material Cost	$129,000	$159,000	$186,000	$206,000

Budgeted Direct Materials Usage Cost (January, February & March)	$474,000

- Direct Materials Purchase Budget

  - Once the direct material requirement is established, the company determines the number of units of direct materials to be purchased.

	Units
Opening DM Inventory	XXX
Add: Purchase (a)	XXX
Less: Transfers to Production	(XXX)
Ending DM Inventory	XXX
Cost per Pound (b)	XXX
Direct Material Purchase Cost (a x b)	XXX

  - Example

    - Ninja Company's policy is to maintain direct material inventory levels at 20% of the following month's budgeted production units. Prepare the direct material purchase budget.

Month	Direct Material Required (Transfer to Production)	Ending inventory (20% of Next Month's Requirement)	Opening Inventory (Last Month's DM Ending Inventory)
January	25,800 pounds	6,360 pounds	5,160 pounds
February	31,800 pounds	7,440 pounds	6,360 pounds
March	37,200 pounds	8,240 pounds	7,440 pounds
April	41,200 pounds	-	8,240 pounds

	January	February	March
Opening DM Inventory	5,160	6,360	7,440
Add: Purchase (a)	27,000	32,880	38,000
Less: Transfers to Production	(25,800)	(31,800)	(37,200)
Ending DM Inventory	6,360	7,440	8,240
Cost per Pound (b)	$5	$5	$5
Direct Material Purchase Cost (a x b)	$135,000	$164,400	$190,000

Budgeted Direct Materials Purchase Cost (January, February & March)	$489,400

- Direct Labor Budget
  - The production budget will be used to prepare the direct labor budget.
  - This budget indicates the hours and cost of direct labor needed to meet production requirements.
  - Example
    - Ninja Company estimates that it takes 1 hour of labor to assemble a table. The labor rate is $8 per hour. Prepare the direct labor budget.

	January	February	March
Production	12,900 units	15,900 units	18,600 units
Hours Required per unit	1 Hour	1 Hour	1 Hour
Total Hours Required	12,900 Hours	15,900 Hours	18,600 Hours
Cost per Hour	$8	$8	$8
Direct Labor Cost	$103,200	$127,200	$148,800

Budgeted Direct Labor Cost (January, February & March)	$379,200

- Overhead Budget
  - Overhead Budget is usually divided into Fixed and Variable Costs.
  - Overheads can be allocated based on direct labor hours/machine hours or applied using activity-based costing.
  - Example
    - Ninja Company applies variable overheads based on direct labor hours at the rate of $3 per hour. The fixed overhead rate is $100,000 per month. Prepare the overhead budget.

	January	February	March
Variable Overhead			
Total Hours Required	12,900 Hours	15,900 Hours	18,600 Hours
Variable Overhead Rate per DL Hour	$3	$3	$3
Total Variable Overhead	$38,700	$47,700	$55,800
Fixed Overhead			
Total Fixed Overhead	$100,000	$100,000	$100,000
Total Overhead	$138,700	$147,700	$155,800

Budgeted Overhead (January, February & March)	$442,200

- Cost of Goods Sold Budget
  - Cost of Goods Sold Budget presents the total cost of producing the product sold for a period.

		$$
Opening Finished Goods Inventory (Given)		XXX
Add: Direct Materials (From Direct Material Usage Budget)		
Add: Direct Labor (From Direct Labor Budget)	XXX	
Add: Overheads (From Overheads Budget)	XXX	
Cost of Goods Manufactured		**XXX**
Cost of Goods Available for Sale		**XXX**
Less: Ending Finished Goods Inventory (Calculated)		(XXX)
Cost of Goods Sold		**XXX**

  - Example
    - Ninja Company's opening finished goods inventory was valued at $68,000. Prepare the cost of goods sold budget.

(January – March)		$$
Opening Finished Goods Inventory (Given)		$68,000
Add: Direct Materials (From Direct Material Usage Budget)	$474,000	
Add: Direct Labor (From Direct Labor Budget)	$379,200	
Add: Overheads (From Overheads Budget)	$442,200	
Cost of Goods Manufactured		**$1,295,400**
Cost of Goods Available for Sale		**$1,363,400**
Less: Ending Finished Goods Inventory (Calculated)		($162,000)
Cost of Goods Sold		**$1,201,400**

    - Ending finished goods inventory can be calculated as follows:
      - Total cost of goods manufactured = $1,295,400
      - Units manufactured (12,900 + 15,900 + 18,600) = 47,400 units
      - Cost per unit = $27
      - Ending finished goods inventory (6,000 units x $27) = $162,000

- Selling, General, and Administrative (SG&A) Expense Budget
    - Selling, General, and Administrative (SG&A) expense refers to period costs expensed in the period incurred.
    - These are non-manufacturing expenses that could be both fixed or variable.
    - Example
        - Prepare Ninja Company's SG&A Expense Budget.

	$$
Salaries	$200,000
Insurance	$200,000
Rent	$50,000
Advertising	$100,000
Total Selling, General & Administrative (SG&A) Expense	$550,000

- Pro Forma Income Statement
    - Budgeted Income Statement
    - Prepared Based on Sales Budget, Production Budget, Direct Materials Budget, Direct Labor Budget, Overhead Budget and Selling, General and Administrative Expenses Budget
    - Analyzed by top Management to Determine the Alignment with Objectives and Goals
    - Example

Sales (From Sales Budget)	$2,430,000
Less: Cost of Goods Sold (From Cost of Goods Sold Budget)	($1,201,400)
Gross Profit	$1,228,600
Less: SG&A Expense (From SG&A Budget)	($550,000)
Operating Profit	$678,600
Less: Taxes (30%)	($203,580)
Net Income	$475,020

- Cash Budget
  - Calculates the effect of all budgets on Cash
  - Prepared for the near future
  - Forecasts the Cash Outflows and Inflows of a Firm
  - Useful in the planning process for determining
    - Expected Sources and Uses of Funds
    - Availability of Funds for Investment Purposes
    - Need for External Financing
    - Availability of Funds for the Repayment of Debt
    - Availability of Funds for Distribution to Owners
  - Example
    - 30% is Cash sales, and Balance is Credit Sales. Cash Collection for Credit Sales is as follows:
      - 30% in Month of Sale
      - 40% in the month following the Month of Sale
      - 25% in the Second Month following the Month of Sale
      - 5% is uncollectible
    - 50% is Cash Purchases, and Balance is Credit Purchases. Cash Payment for Credit Purchase is as follows:
      - 60% in Month of Purchase
      - 40% in the month following the Month of Purchases
    - Operating Expenses, 80% of Operating Expenses are cash expenses and are paid in arrears.
    - Sales, Purchase and Operating Expenses information is given below:

	November	December	January	February	March
Sales	$100,000	$110,000	$120,000	$130,000	$140,000
Purchase	$40,000	$50,000	$60,000	$70,000	$80,000
Operating Expense	$30,000	$40,000	$50,000	$60,000	$70,000
Insurance					$30,000

- Using this information prepare Cash Budget

	January	February	March
Total Sales	$120,000	$130,000	$140,000
Cash Sales (30% of Total Sales) (a)	$36,000	$39,000	$42,000
Credit Sales (70% of Total Sales)	$84,000	$91,000	$98,000
Cash Collection:			
30% in the Month of Sales (b)	$25,200	$27,300	$29,400
40% in Month following the Month of Sale (c)	$30,800	$33,600	$36,400
25% in the Second Month following the Month of Sale (d)	$17,500	$19,250	$21,000
Total Cash Receipts (A) = (a) + (b) + (c) + (d)	**$109,500**	**$119,150**	**$128,800**
Total Purchases	$60,000	$70,000	$80,000
Cash Purchases (50% of Total Purchases) (a)	$30,000	$35,000	$40,000
Credit Purchases (50% of Total Purchases)	$30,000	$35,000	$40,000
Cash Payment:			
60% in the Month of Purchase (b)	$18,000	$21,000	$24,000
40% in Month following the Month of Purchase (c)	$10,000	$12,000	$14,000
Operating Expense (d)	$32,000	$40,000	$48,000
Insurance (e)			$30,000
Total Cash Receipts (B) = (a) + (b) + (c) + (d) + (e)	$90,000	$108,000	$156,000
Cash Surplus (Deficit) (A) – (B)	$19,500	$11,150	($27,200)

- Pro Forma Balance Sheet
  - Calculates the estimated Financial Position of a company
  - Illustrates the effect of budgeting on components of Balance Sheet
- Pro Forma Statement of Cash Flows
  - Last Budget to be Prepared
  - Converts accrual-based Budgeted Income Statement and Balance Sheet into cash-based Information.