Chapter 8

Profit Planning

Solutions to Questions

**8-1** A budget is a detailed quantitative plan for the acquisition and use of financial and other resources over a given time period. Budgetary control involves using budgets to increase the likelihood that all parts of an organization are working together to achieve the goals set down in the planning stage.

**8-2**

1. Budgets communicate management’s plans throughout the organization.

2. Budgets force managers to think about and plan for the future. In the absence of the necessity to prepare a budget, many managers would spend all of their time dealing with day-to-day emergencies.

3. The budgeting process provides a means of allocating resources to those parts of the organization where they can be used most effectively.

4. The budgeting process can uncover potential bottlenecks before they occur.

5. Budgets coordinate the activities of the entire organization by integrating the plans of its various parts. Budgeting helps to ensure that everyone in the organization is pulling in the same direction.

6. Budgets define goals and objectives that can serve as benchmarks for evaluating subsequent performance.

**8-3** Responsibility accounting is a system in which a manager is held responsible for those items of revenues and costs—and only those items—that the manager can control to a significant extent. Each line item in the budget is made the responsibility of a manager who is then held responsible for differences between budgeted and actual results.

**8-4** A master budget represents a summary of all of management’s plans and goals for the future, and outlines the way in which these plans are to be accomplished. The master budget is composed of a number of smaller, specific budgets encompassing sales, production, raw materials, direct labor, manufacturing overhead, selling and administrative expenses, and inventories. The master budget usually also contains a budgeted income statement, budgeted balance sheet, and cash budget.

**8-5** The level of sales impacts virtually every other aspect of the firm’s activities. It determines the production budget, cash collections, cash disbursements, and selling and administrative budget that in turn determine the cash budget and budgeted income statement and balance sheet.

**8-6** No. Planning and control are different, although related, concepts. Planning involves developing goals and developing budgets to achieve those goals. Control, by contrast, involves the means by which management attempts to ensure that the goals set down at the planning stage are attained.

**8-7** The flow of budgeting information moves in two directions—upward and downward. The initial flow should be from the bottom of the organization upward. Each person having responsibility over revenues or costs should prepare the budget data against which his or her subsequent performance will be measured. As the budget data are communicated upward, higher-level managers should review the budgets for consistency with the overall goals of the organization and the plans of other units in the organization. Any issues should be resolved in discussions between the individuals who prepared the budgets and their managers.

All levels of an organization should participate in the budgeting process—not just top management or the accounting department. Generally, the lower levels will be more familiar with detailed, day-to-day operating data, and for this reason will have primary responsibility for developing the specifics in the budget. Top levels of management should have a better perspective concerning the company’s strategy.

**8-8** A self-imposed budget is one in which persons with responsibility over cost control prepare their own budgets. This is in contrast to a budget that is imposed from above. The major advantages of a self-imposed budget are: (1) Individuals at all levels of the organization are recognized as members of the team whose views and judgments are valued. (2) Budget estimates prepared by front-line managers are often more accurate and reliable than estimates prepared by top managers who have less intimate knowledge of markets and day-to-day operations. (3) Motivation is generally higher when individuals participate in setting their own goals than when the goals are imposed from above. Self-imposed budgets create commitment. (4) A manager who is not able to meet a budget that has been imposed from above can always say that the budget was unrealistic and impossible to meet. With a self-imposed budget, this excuse is not available.  
 Self-imposed budgets do carry with them the risk of budgetary slack. The budgets prepared by lower-level managers should be carefully reviewed to prevent too much slack.

**8-9** The direct labor budget and other budgets can be used to forecast workforce staffing needs. Careful planning can help a company avoid erratic hiring and laying off of employees.

**8-10** The principal purpose of the cash budget is NOT to see how much cash the company will have in the bank at the end of the year. Although this is one of the purposes of the cash budget, the principal purpose is to provide information on probable cash needs *during* the budget period, so that bank loans and other sources of financing can be anticipated and arranged well in advance.

**Exercise 8-1** (20 minutes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. |  | July | August | September | Total |
|  | May sales: $430,000 × 10% | $ 43,000 |  |  | $    43,000 |
|  | June sales: $540,000 × 70%, 10% | 378,000 | $ 54,000 |  | 432,000 |
|  | July sales: $600,000 × 20%, 70%, 10% | 120,000 | 420,000 | $ 60,000 | 600,000 |
|  | August sales: $900,000 × 20%, 70% |  | 180,000 | 630,000 | 810,000 |
|  | September sales: $500,000 × 20% |  |  | 100,000 | 100,000 |
|  | Total cash collections | $541,000 | $654,000 | $790,000 | $1,985,000 |
|  |  |  |  |  |  |

Notice that even though sales peak in August, cash collections peak in September. This occurs because the bulk of the company’s customers pay in the month following sale. The lag in collections that this creates is even more pronounced in some companies. Indeed, it is not unusual for a company to have the least cash available in the months when sales are greatest.

2. Accounts receivable at September 30:

|  |  |
| --- | --- |
| From August sales: $900,000 × 10% | $ 90,000 |
| From September sales: $500,000 × (70% + 10%) | 400,000 |
| Total accounts receivable | $490,000 |
|  |  |

**Exercise 8-2** (10 minutes)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Quarter |
| Budgeted sales in units | 30,000 | 45,000 | 60,000 | 135,000 |
| Add desired ending inventory\* | 4,500 | 6,000 | 5,000 | 5,000 |
| Total needs | 34,500 | 51,000 | 65,000 | 140,000 |
| Less beginning inventory | 3,000 | 4,500 | 6,000 | 3,000 |
| Required production | 31,500 | 46,500 | 59,000 | 137,000 |
|  |  |  |  |  |

\*10% of the following month’s sales

**Exercise 8-3** (15 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Quarter—Year 2 | | | |  | Year 3 |
|  | First | Second | Third | Fourth |  | First |
| Required production of calculators | 60,000 | 90,000 | 150,000 | 100,000 |  | 80,000 |
| Number of chips per calculator | × 3 | × 3 | × 3 | × 3 |  | × 3 |
| Total production needs—chips | 180,000 | 270,000 | 450,000 | 300,000 |  | 240,000 |
|  |  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Year 2 | | | | |
|  | First | Second | Third | Fourth | Year |
| Production needs—chips | 180,000 | 270,000 | 450,000 | 300,000 | 1,200,000 |
| Add desired ending inventory—chips | 54,000 | 90,000 | 60,000 | 48,000 | 48,000 |
| Total needs—chips | 234,000 | 360,000 | 510,000 | 348,000 | 1,248,000 |
| Less beginning inventory—chips | 36,000 | 54,000 | 90,000 | 60,000 | 36,000 |
| Required purchases—chips | 198,000 | 306,000 | 420,000 | 288,000 | 1,212,000 |
| Cost of purchases at $2 per chip | $396,000 | $612,000 | $840,000 | $576,000 | $2,424,000 |
|  |  |  |  |  |  |

**Exercise 8-4** (20 minutes)

1. Assuming that the direct labor workforce is adjusted each quarter, the direct labor budget would be:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
|  | Units to be produced | 5,000 | 4,400 | 4,500 | 4,900 | 18,800 |
|  | Direct labor time per unit (hours) | ×0.40 | ×0.40 | ×0.40 | ×0.40 | ×0.40 |
|  | Total direct labor hours needed | 2,000 | 1,760 | 1,800 | 1,960 | 7,520 |
|  | Direct labor cost per hour | ×$11.00 | ×$11.00 | ×$11.00 | ×$11.00 | ×$11.00 |
|  | Total direct labor cost | $22,000 | $19,360 | $19,800 | $21,560 | $82,720 |
|  |  |  |  |  |  |  |

2. Assuming that the direct labor workforce is not adjusted each quarter and that overtime wages are paid, the direct labor budget would be:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
|  | Units to be produced | 5,000 | 4,400 | 4,500 | 4,900 | 18,800 |
|  | Direct labor time per unit (hours) | ×0.40 | ×0.40 | ×0.40 | ×0.40 | ×0.40 |
|  | Total direct labor hours needed | 2,000 | 1,760 | 1,800 | 1,960 | 7,520 |
|  | Regular hours paid | 1,800 | 1,800 | 1,800 | 1,800 | 7,200 |
|  | Overtime hours paid | 200 | 0 | 0 | 160 | 360 |
|  | Wages for regular hours  (@ $11.00 per hour) | $19,800 | $19,800 | $19,800 | $19,800 | $79,200 |
|  | Overtime wages (@ $11.00 per hour × 1.5 hours) | 3,300 | 0 | 0 | 2,640 | 5,940 |
|  | Total direct labor cost | $23,100 | $19,800 | $19,800 | $22,440 | $85,140 |
|  |  |  |  |  |  |  |

**Exercise 8-5** (15 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Krispin Corporation  Manufacturing Overhead Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
|  | Budgeted direct labor-hours | 5,000 | 4,800 | 5,200 | 5,400 | 20,400 |
|  | Variable overhead rate | × $1.75 | × $1.75 | × $1.75 | × $1.75 | × $1.75 |
|  | Variable manufacturing overhead | $ 8,750 | $ 8,400 | $ 9,100 | $ 9,450 | $ 35,700 |
|  | Fixed manufacturing overhead | 35,000 | 35,000 | 35,000 | 35,000 | 140,000 |
|  | Total manufacturing overhead | 43,750 | 43,400 | 44,100 | 44,450 | 175,700 |
|  | Less depreciation | 15,000 | 15,000 | 15,000 | 15,000 | 60,000 |
|  | Cash disbursements for manufacturing overhead | $28,750 | $28,400 | $29,100 | $29,450 | $115,700 |
|  |  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| 2. | Total budgeted manufacturing overhead for the year (a) | $175,700 |
|  | Total budgeted direct labor-hours for the year (b) | 20,400 |
|  | Predetermined overhead rate for the year (a) ÷ (b) | $8.61 |
|  |  |  |

**Exercise 8-6** (15 minutes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Haerve Company  Selling and Administrative Expense Budget | | | | | |
|  |  |  |  |  |  |
|  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
| Budgeted unit sales | 12,000 | 14,000 | 11,000 | 10,000 | 47,000 |
| Variable selling and administrative expense per unit | × $2.75 | × $2.75 | × $2.75 | × $2.75 | × $2.75 |
| Variable expense | $ 33,000 | $ 38,500 | $ 30,250 | $ 27,500 | $129,250 |
| Fixed selling and administrative expenses: |  |  |  |  |  |
| Advertising | 12,000 | 12,000 | 12,000 | 12,000 | 48,000 |
| Executive salaries | 40,000 | 40,000 | 40,000 | 40,000 | 160,000 |
| Insurance |  | 6,000 |  | 6,000 | 12,000 |
| Property taxes |  |  | 6,000 |  | 6,000 |
| Depreciation | 16,000 | 16,000 | 16,000 | 16,000 | 64,000 |
| Total fixed selling and administrative expenses | 68,000 | 74,000 | 74,000 | 74,000 | 290,000 |
| Total selling and administrative expenses | 101,000 | 112,500 | 104,250 | 101,500 | 419,250 |
| Less depreciation | 16,000 | 16,000 | 16,000 | 16,000 | 64,000 |
| Cash disbursements for selling and administrative expenses | $ 85,000 | $ 96,500 | $ 88,250 | $ 85,500 | $355,250 |
|  |  |  |  |  |  |

**Exercise 8-7** (20 minutes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Forest Outfitters  Cash Budget | | | | | |
|  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
| Cash balance, beginning | $ 50,000 | $ 30,000 | $ 69,800 | $ 49,800 | $    50,000 |
| Total cash receipts | 340,000 | 670,000 | 410,000 | 470,000 | 1,890,000 |
| Total cash available | 390,000 | 700,000 | 479,800 | 519,800 | 1,940,000 |
| Less total cash disbursements | 530,000 | 450,000 | 430,000 | 480,000 | 1,890,000 |
| Excess (deficiency) of cash available over disbursements | (140,000) | 250,000 | 49,800 | 39,800 | 50,000 |
| Financing: |  |  |  |  |  |
| Borrowings (at beginning)\* | 170,000 |  |  |  | 170,000 |
| Repayments (at ending) |  | (170,000) |  |  | (170,000) |
| Interest§ |  | (10,200) |  |  | (10,200) |
| Total financing | 170,000 | (180,200) |  |  | (10,200) |
| Cash balance, ending | $ 30,000 | $ 69,800 | $ 49,800 | $ 39,800 | $   39,800 |
|  |  |  |  |  |  |

\* Since the deficiency of cash available over disbursements is $140,000, the company must borrow $170,000 to maintain the desired ending cash balance of $30,000.

§ $170,000 × 3% × 2 quarters = $10,200

**Exercise 8-8** (10 minutes)

|  |  |
| --- | --- |
| Seattle Cat  Budgeted Income Statement | |
| Sales (380 units @ $1,850 each) | $703,000 |
| Cost of goods sold (380 units @ $1,425 each) | 541,500 |
| Gross margin | 161,500 |
| Selling and administrative expenses\* | 137,300 |
| Net operating income | 24,200 |
| Interest expense | 11,000 |
| Net income | $ 13,200 |

\* 380 × $85 + $105,000 = $137,300

**Exercise 8-9** (20 minutes)

|  |  |  |
| --- | --- | --- |
| Academic Copy  Budgeted Balance Sheet | | |
| Assets |  |  |
| Current assets: |  |  |
| Cash\* | $ 4,400 |  |
| Accounts receivable | 6,500 |  |
| Supplies inventory | 2,100 |  |
| Total current assets |  | $13,000 |
| Plant and equipment: |  |  |
| Equipment | 28,000 |  |
| Accumulated depreciation | (9,000) |  |
| Plant and equipment, net |  | 19,000 |
| Total assets |  | $32,000 |
|  |  |  |
| Liabilities and Stockholders' Equity |  |  |
| Current liabilities: |  |  |
| Accounts payable |  | $ 1,900 |
| Stockholders' equity: |  |  |
| Common stock | $ 4,000 |  |
| Retained earnings# | 26,100 |  |
| Total stockholders' equity |  | 30,100 |
| Total liabilities and stockholders' equity |  | $32,000 |

\* Plug figure.

# Retained earnings is computed as follows:

|  |  |  |
| --- | --- | --- |
|  | Retained earnings, beginning balance | $21,000 |
|  | Add net income | 8,600 |
|  |  | 29,600 |
|  | Deduct dividends | 3,500 |
|  | Retained earnings, ending balance | $26,100 |
|  |  |  |

**Exercise 8-10** (30 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Graber Corporation  Sales Budget | | | | | |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Budgeted unit sales | 16,000 | 15,000 | 14,000 | 15,000 | 60,000 |
|  | Selling price per unit | × $22.00 | × $22.00 | × $22.00 | × $22.00 | × $22.00 |
|  | Total sales | $352,000 | $330,000 | $308,000 | $330,000 | $1,320,000 |
|  |  |  |  |  |  |  |
| Schedule of Expected Cash Collections | | | | | | |
|  |  |  |  |  |  |  |
|  | Accounts receivable, beginning balance | $ 66,000 |  |  |  | $   66,000 |
|  | 1st Quarter sales | 264,000 | $ 70,400 |  |  | 334,400 |
|  | 2nd Quarter sales |  | 247,500 | $ 66,000 |  | 313,500 |
|  | 3rd Quarter sales |  |  | 231,000 | $ 61,600 | 292,600 |
|  | 4th Quarter sales |  |  |  | 247,500 | 247,500 |
|  | Total cash collections | $330,000 | $317,900 | $297,000 | $309,100 | $1,254,000 |
|  |  |  |  |  |  |  |

**Exercise 8-10** (continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2. | Graber CorporationProduction Budget | | | | | |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Budgeted unit sales | 16,000 | 15,000 | 14,000 | 15,000 | 60,000 |
|  | Add desired ending inventory | 3,000 | 2,800 | 3,000 | 3,400 | 3,400 |
|  | Total units needed | 19,000 | 17,800 | 17,000 | 18,400 | 63,400 |
|  | Less beginning inventory | 3,200 | 3,000 | 2,800 | 3,000 | 3,200 |
|  | Required production | 15,800 | 14,800 | 14,200 | 15,400 | 60,200 |

**Exercise 8-11** (30 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Priston Company  Direct Materials Budget | | | | | |
|  |  | 1st  Quarter | 2nd  Quarter | 3rd  Quarter | 4th  Quarter | Year |
|  | Required production | 6,000 | 7,000 | 8,000 | 5,000 | 26,000 |
|  | Raw materials per unit | × 3 | × 3 | × 3 | × 3 | × 3 |
|  | Production needs | 18,000 | 21,000 | 24,000 | 15,000 | 78,000 |
|  | Add desired ending inventory | 4,200 | 4,800 | 3,000 | 3,700 | 3,700 |
|  | Total needs | 22,200 | 25,800 | 27,000 | 18,700 | 81,700 |
|  | Less beginning inventory | 3,600 | 4,200 | 4,800 | 3,000 | 3,600 |
|  | Raw materials to be purchased | 18,600 | 21,600 | 22,200 | 15,700 | 78,100 |
|  | Cost of raw materials to be purchased at $2.50 per pound | $46,500 | $54,000 | $55,500 | $39,250 | $195,250 |
|  |  |  |  |  |  |  |
| Schedule of Expected Cash Disbursements for Materials | | | | | | |
|  |  |  |  |  |  |  |
|  | Accounts payable, beginning balance | $11,775 |  |  |  | $ 11,775 |
|  | 1st Quarter purchases | 32,550 | $13,950 |  |  | 46,500 |
|  | 2nd Quarter purchases |  | 37,800 | $16,200 |  | 54,000 |
|  | 3rd Quarter purchases |  |  | 38,850 | $16,650 | 55,500 |
|  | 4th Quarter purchases |  |  |  | 27,475 | 27,475 |
|  | Total cash disbursements for materials | $44,325 | $51,750 | $55,050 | $44,125 | $195,250 |

**Exercise 8-11** (continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2. | Priston Company  Direct Labor Budget | | | | | |
|  |  | 1st  Quarter | 2nd  Quarter | 3rd  Quarter | 4th  Quarter | Year |
|  | Units to be produced | 6,000 | 7,000 | 8,000 | 5,000 | 26,000 |
|  | Direct labor time per unit (hours) | × 0.50 | × 0.50 | × 0.50 | × 0.50 | × 0.50 |
|  | Total direct labor-hours needed | 3,000 | 3,500 | 4,000 | 2,500 | 13,000 |
|  | Direct labor cost per hour | × $12.00 | × $12.00 | × $12.00 | × $12.00 | × $12.00 |
|  | Total direct labor cost | $ 36,000 | $ 42,000 | $ 48,000 | $ 30,000 | $156,000 |

**Exercise 8-12** (30 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. 1. 1. | Harveton Corporation  Direct Labor Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
|  | Units to be produced | 16,000 | 15,000 | 14,000 | 15,000 | 60,000 |
|  | Direct labor time per unit (hours) | 0.80 | 0.80 | 0.80 | 0.80 | 0.80 |
|  | Total direct labor-hours needed | 12,800 | 12,000 | 11,200 | 12,000 | 48,000 |
|  | Direct labor cost per hour | $11.50 | $11.50 | $11.50 | $11.50 | $11.50 |
|  | Total direct labor cost | $147,200 | $138,000 | $128,800 | $138,000 | $552,000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2. 1. 1. | Harveton Corporation  Manufacturing Overhead Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st  Quarter* | *2nd  Quarter* | *3rd  Quarter* | *4th  Quarter* | *Year* |
|  | Budgeted direct labor-hours | 12,800 | 12,000 | 11,200 | 12,000 | 48,000 |
|  | Variable overhead rate | $2.50 | $2.50 | $2.50 | $2.50 | $2.50 |
|  | Variable manufacturing overhead | $ 32,000 | $ 30,000 | $ 28,000 | $ 30,000 | $120,000 |
|  | Fixed manufacturing overhead | 90,000 | 90,000 | 90,000 | 90,000 | 360,000 |
|  | Total manufacturing overhead | 122,000 | 120,000 | 118,000 | 120,000 | 480,000 |
|  | Less depreciation | 34,000 | 34,000 | 34,000 | 34,000 | 136,000 |
|  | Cash disbursements for manufacturing overhead | $ 88,000 | $ 86,000 | $ 84,000 | $ 86,000 | $344,000 |
|  |  |  |  |  |  |  |

**Exercise 8-13** (45 minutes)

1. Production budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | July | August | September | October |
|  | Budgeted sales (units) | 40,000 | 50,000 | 70,000 | 35,000 |
|  | Add desired ending inventory | 20,000 | 26,000 | 15,500 | 11,000 |
|  | Total needs | 60,000 | 76,000 | 85,500 | 46,000 |
|  | Less beginning inventory | 17,000 | 20,000 | 26,000 | 15,500 |
|  | Required production | 43,000 | 56,000 | 59,500 | 30,500 |
|  |  |  |  |  |  |

2. During July and August the company is building inventories in anticipation of peak sales in September. Therefore, production exceeds sales during these months. In September and October inventories are being reduced in anticipation of a decrease in sales during the last months of the year. Therefore, production is less than sales during these months to cut back on inventory levels.

3. Direct materials budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | July | August | September |  | Third Quarter |
| Required production (units) | 43,000 | 56,000 | 59,500 |  | 158,500 |
| Material A135 needed per unit | × 3 lbs. | × 3 lbs. | × 3 lbs. |  | × 3 lbs. |
| Production needs (lbs.) | 129,000 | 168,000 | 178,500 |  | 475,500 |
| Add desired ending inventory (lbs.) | 84,000 | 89,250 | 45,750 | \* | 45,750 |
| Total Material A135 needs | 213,000 | 257,250 | 224,250 |  | 521,250 |
| Less beginning inventory (lbs.) | 64,500 | 84,000 | 89,250 |  | 64,500 |
| Material A135 purchases (lbs.) | 148,500 | 173,250 | 135,000 |  | 456,750 |
|  |  |  |  |  |  |

|  |  |
| --- | --- |
| \* | 30,500 units (October production) × 3 lbs. per unit= 91,500 lbs.; 91,500 lbs. × 0.5 = 45,750 lbs. |

As shown in part (1), production is greatest in September. However, as shown in the raw material purchases budget, the purchases of materials is greatest a month earlier because materials must be on hand to support the heavy production scheduled for September.

**Exercise 8-14** (30 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | July | August | September |  | Quarter |
|  | From accounts receivable | $126,000 |  |  |  | $126,000 |
|  | From July sales: |  |  |  |  |  |
|  | 30% × 200,000 | 60,000 |  |  |  | 60,000 |
|  | 70% × 200,000 |  | $140,000 |  |  | 140,000 |
|  | From August sales: |  |  |  |  |  |
|  | 30% × 220,000 |  | 66,000 |  |  | 66,000 |
|  | 70% × 220,000 |  |  | $154,000 |  | 154,000 |
|  | From September sales: |  |  |  |  |  |
|  | 30% × 210,000 |  |  | 63,000 |  | 63,000 |
|  | Total cash collections | $186,000 | $206,000 | $217,000 |  | $609,000 |
|  |  |  |  |  |  |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| Budgeted cost of goods sold | $130,000 | $143,000 | $136,500 | $409,500 |
| Add desired ending inventory\* | 57,200 | 54,600 | 59,800 | 59,800 |
| Total needs | 187,200 | 197,600 | 196,300 | 469,300 |
| Less beginning inventory | 52,000 | 57,200 | 54,600 | 52,000 |
| Required purchases | $135,200 | $140,400 | $141,700 | $417,300 |
|  |  |  |  |  |

\*At July 31: $143,000 × 40% = $57,200.

b. Schedule of cash disbursements for purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| From accounts payable | $ 61,100 |  |  | $ 61,100 |
| For July purchases | 67,600 | $ 67,600 |  | 135,200 |
| For August purchases |  | 70,200 | $ 70,200 | 140,400 |
| For September purchases |  |  | 70,850 | 70,850 |
| Total cash disbursements | $128,700 | $137,800 | $141,050 | $407,550 |
|  |  |  |  |  |

**Exercise 8-14** (continued)

3.

|  |  |
| --- | --- |
| Colerain Corporation  Income Statement  For the Quarter Ended September 30 | |
| Sales ($200,000 + $220,000 + $210,000) | $630,000 |
| Cost of goods sold (Part 2a) | 409,500 |
| Gross margin | 220,500 |
| Selling and administrative expenses ($65,000 × 3 months) | 195,000 |
| Net operating income | 25,500 |
| Interest expense | 0 |
| Net income | $ 25,500 |
|  |  |

4.

|  |  |  |
| --- | --- | --- |
| Colerain Corporation | | |
| Balance Sheet | | |
| September 30 | | |
|  | | |
| *Assets* | | |
|  | |  |
| Cash  ($80,000 + $609,000 – $407,550 – ($60,000 × 3)) | $101,450 | |
| Accounts receivable ($210,000 × 70%) | 147,000 | |
| Inventory (Part 2a) | 59,800 | |
| Plant and equipment, net ($200,000 – ($5,000 ×3)) | 185,000 | |
| Total assets | $493,250 | |
|  |  | |

|  |  |
| --- | --- |
| *Liabilities and Stockholders’ Equity* | |
| Accounts payable ($141,700 × 50%) | $ 70,850 |
| Capital stock (Given) | 300,000 |
| Retained earnings ($96,900 + $25,500) | 122,400 |
| Total liabilities and stockholders’ equity | $493,250 |
|  |  |

**Exercise 8-15** (20 minutes)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Quarter (000 omitted) | | | | | | | | |  |
|  | 1 |  | 2 |  | *3* |  | *4* |  | Year |  |
| Cash balance, beginning | $ 9 | \* | $   5 |  | $   5 |  | $   5 |  | $   9 |  |
| Add collections from customers | 76 |  | 90 |  | 125 | \* | 100 |  | 391 | \* |
| Total cash available | 85 | \* | 95 |  | 130 |  | 105 |  | 400 |  |
| Less disbursements: |  |  |  |  |  |  |  |  |  |  |
| Purchase of inventory | 40 | \* | 58 | \* | 36 |  | 32 | \* | 166 |  |
| Operating expenses | 36 |  | 42 | \* | 54 | \* | 48 |  | 180 | \* |
| Equipment purchases | 10 | \* | 8 | \* | 8 | \* | 10 |  | 36 | \* |
| Dividends | 2 | \* | 2 | \* | 2 | \* | 2 | \* | 8 |  |
| Total disbursements | 88 |  | 110 | \* | 100 |  | 92 |  | 390 |  |
| Excess (deficiency) of cash available over disbursements | (3) | \* | (15) |  | 30 | \* | 13 |  | 10 |  |
| Financing: |  |  |  |  |  |  |  |  |  |  |
| Borrowings | 8 |  | 20 | \* | 0 |  | 0 |  | 28 |  |
| Repayments (including interest) | 0 |  | 0 |  | (25) |  | (7) | \* | (32) |  |
| Total financing | 8 |  | 20 |  | (25) |  | (7) |  | (4) |  |
| Cash balance, ending | $ 5 |  | $   5 |  | $   5 |  | $   6 |  | $   6 |  |
|  |  |  |  |  |  |  |  |  |  |  |

\*Given.

**Problem 8-16** (30 minutes)

|  |  |  |
| --- | --- | --- |
| 1. | September cash sales | $ 7,400 |
|  | September collections on account: |  |
|  | July sales: $20,000 × 18% | 3,600 |
|  | August sales: $30,000 × 70% | 21,000 |
|  | September sales: $40,000 × 10% | 4,000 |
|  | Total cash collections | $36,000 |
|  |  |  |
| 2. | Payments to suppliers: |  |
|  | August purchases (accounts payable) | $16,000 |
|  | September purchases: $25,000 × 20% | 5,000 |
|  | Total cash payments | $21,000 |
|  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3. | Calgon Products Cash Budget For the Month of September | | | |
|  | Cash balance, September 1 |  |  | $ 9,000 |
|  | Add cash receipts: |  |  |  |
|  | Collections from customers |  |  | 36,000 |
|  | Total cash available before current financing |  |  | 45,000 |
|  | Less disbursements: |  |  |  |
|  | Payments to suppliers for inventory | $21,000 |  |  |
|  | Selling and administrative expenses | 9,000 | \* |  |
|  | Equipment purchases | 18,000 |  |  |
|  | Dividends paid | 3,000 |  |  |
|  | Total disbursements |  |  | 51,000 |
|  | Excess (deficiency) of cash available over disbursements |  |  | (6,000) |
|  | Financing: |  |  |  |
|  | Borrowings |  |  | 11,000 |
|  | Repayments |  |  | 0 |
|  | Interest |  |  | 0 |
|  | Total financing |  |  | 11,000 |
|  | Cash balance, September 30 |  |  | $ 5,000 |
|  |  |  |  |  |

 \*$13,000 – $4,000 = $9,000.

**Problem 8-17** (60 minutes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. | Collections on sales: | July | August | Sept. | Quarter |
|  | Cash sales | $ 8,000 | $14,000 | $10,000 | $ 32,000 |
|  | Credit sales: |  |  |  |  |
|  | May: $30,000 × 80% × 20% | 4,800 |  |  | 4,800 |
|  | June: $36,000 × 80% × 70%, 20% | 20,160 | 5,760 |  | 25,920 |
|  | July: $40,000 × 80% × 10%, 70%, 20% | 3,200 | 22,400 | 6,400 | 32,000 |
|  | Aug.: $70,000 × 80% × 10%, 70% |  | 5,600 | 39,200 | 44,800 |
|  | Sept.: $50,000 × 80% × 10% |  |  | 4,000 | 4,000 |
|  | Total cash collections | $36,160 | $47,760 | $59,600 | $143,520 |
|  |  |  |  |  |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Oct. |
| Budgeted cost of goods sold | $24,000 | $42,000 | $30,000 | $27,000 |
| Add desired ending inventory\* | 31,500 | 22,500 | 20,250 |  |
| Total needs | 55,500 | 64,500 | 50,250 |  |
| Less beginning inventory | 18,000 | 31,500 | 22,500 |  |
| Required inventory purchases | $37,500 | $33,000 | $27,750 |  |
|  |  |  |  |  |

\*75% of the next month’s budgeted cost of goods sold.

b. Schedule of expected cash disbursements for merchandise purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Quarter |
| Accounts payable, June 30 | $11,700 |  |  | $11,700 |
| July purchases | 18,750 | $18,750 |  | 37,500 |
| August purchases |  | 16,500 | $16,500 | 33,000 |
| September purchases |  |  | 13,875 | 13,875 |
| Total cash disbursements | $30,450 | $35,250 | $30,375 | $96,075 |
|  |  |  |  |  |

**Problem 8-17** (continued)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3. | Janus Products, Inc. Cash Budget For the Quarter Ended September 30 | | | | |
|  |  | July | August | Sept. | Quarter |
|  | Cash balance, beginning | $ 8,000 | $ 8,410 | $ 8,020 | $   8,000 |
|  | Add collections from sales | 36,160 | 47,760 | 59,600 | 143,520 |
|  | Total cash available | 44,160 | 56,170 | 67,620 | 151,520 |
|  | Less disbursements: |  |  |  |  |
|  | For inventory purchases | 30,450 | 35,250 | 30,375 | 96,075 |
|  | For selling expenses | 7,200 | 11,700 | 8,500 | 27,400 |
|  | For administrative expenses | 3,600 | 5,200 | 4,100 | 12,900 |
|  | For land | 4,500 | 0 | 0 | 4,500 |
|  | For dividends | 0 | 0 | 1,000 | 1,000 |
|  | Total disbursements | 45,750 | 52,150 | 43,975 | 141,875 |
|  | Excess (deficiency) of cash available over disbursements | (1,590) | 4,020 | 23,645 | 9,645 |
|  | Financing: |  |  |  |  |
|  | Borrowings | 10,000 | 4,000 |  | 14,000 |
|  | Repayment | 0 | 0 | (14,000) | (14,000) |
|  | Interest | 0 | 0 | (380) | (380) |
|  | Total financing | 10,000 | 4,000 | (14,380) | (380) |
|  | Cash balance, ending | $ 8,410 | $ 8,020 | $ 9,265 | $   9,265 |
|  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| \* | $10,000 × 1% × 3 = | $300 |
|  | $4,000 × 1% × 2 = | 80 |
|  |  | $380 |

**Problem 8-18** (60 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Collections on sales: | July | August | Sept. | Quarter | |
|  | Cash sales | $ 8,000 | $14,000 | $10,000 | | $ 32,000 |
|  | Credit sales: |  |  |  | |  |
|  | May: $30,000 × 80% × 20% | 4,800 |  |  | | 4,800 |
|  | June: $36,000 × 80% × 70%, 20% | 20,160 | 5,760 |  | | 25,920 |
|  | July: $40,000 × 80% × 25%, 60%, 15% | 8,000 | 19,200 | 4,800 | | 32,000 |
|  | August: $70,000 × 80% × 25%, 60% |  | 14,000 | 33,600 | | 47,600 |
|  | September: $50,000 × 80% × 25% |  |  | 10,000 | | 10,000 |
|  | Total cash collections | $40,960 | $52,960 | $58,400 | | $152,320 |
|  |  |  |  |  | |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Oct. |
| Budgeted cost of goods sold | $24,000 | $42,000 | $30,000 | $27,000 |
| Add desired ending inventory\* | 10,500 | 7,500 | 6,750 |  |
| Total needs | 34,500 | 49,500 | 36,750 |  |
| Less beginning inventory | 18,000 | 10,500 | 7,500 |  |
| Required inventory purchases | $16,500 | $39,000 | $29,250 |  |
|  |  |  |  |  |

\*25% of the next month’s budgeted cost of goods sold.

b. Schedule of expected cash disbursements for merchandise purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Quarter |
| Accounts payable, June 30 | $11,700 |  |  | $11,700 |
| July purchases | 8,250 | $ 8,250 |  | 16,500 |
| August purchases |  | 19,500 | $19,500 | 39,000 |
| September purchases |  |  | 14,625 | 14,625 |
| Total cash disbursements | $19,950 | $27,750 | $34,125 | $81,825 |
|  |  |  |  |  |

**Problem 8-18** (continued)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 3. | Janus Products, Inc. Cash Budget For the Quarter Ended September 30 | | | | |
|  |  | July | August | Sept. | Quarter |
|  | Cash balance, beginning | $ 8,000 | $13,710 | $22,020 | $   8,000 |
|  | Add collections from sales | 40,960 | 52,960 | 58,400 | 152,320 |
|  | Total cash available | 48,960 | 66,670 | 80,420 | 160,320 |
|  | Less disbursements: |  |  |  |  |
|  | For inventory purchases | 19,950 | 27,750 | 34,125 | 81,825 |
|  | For selling expenses | 7,200 | 11,700 | 8,500 | 27,400 |
|  | For administrative expenses | 3,600 | 5,200 | 4,100 | 12,900 |
|  | For land | 4,500 | 0 | 0 | 4,500 |
|  | For dividends | 0 | 0 | 1,000 | 1,000 |
|  | Total disbursements | 35,250 | 44,650 | 47,725 | 127,625 |
|  | Excess (deficiency) of cash available over disbursements | 13,710 | 22,020 | 32,695 | 32,695 |
|  | Financing: |  |  |  |  |
|  | Borrowings | 0 | 0 | 0 | 0 |
|  | Repayment | 0 | 0 | 0 | 0 |
|  | Interest | 0 | 0 | 0 | 0 |
|  | Total financing | 0 | 0 | 0 | 0 |
|  | Cash balance, ending | $13,710 | $22,020 | $32,695 | $ 32,695 |
|  |  |  |  |  |  |

4. Collecting accounts receivable sooner and reducing inventory levels eliminated the company’s need to borrow money and pay interest during the third quarter.

**Problem 8-19** (60 minutes)

1. The sales budget for the third quarter:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | Aug. | Sept. | Quarter |
| Budgeted sales (pairs) | 6,000 | 7,000 | 5,000 | 18,000 |
| Selling price per pair | × $50 | × $50 | × $50 | × $50 |
| Total budgeted sales | $300,000 | $350,000 | $250,000 | $900,000 |
|  |  |  |  |  |

The schedule of expected cash collections from sales:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | Aug. | Sept. | Quarter |
| Accounts receivable, beginning balance | $130,000 |  |  | $130,000 |
| July sales: $300,000 × 40%, 50% | 120,000 | $150,000 |  | 270,000 |
| August sales: $350,000 × 40%, 50% |  | 140,000 | $175,000 | 315,000 |
| September sales: $250,000 × 40% |  |  | 100,000 | 100,000 |
| Total cash collections | $250,000 | $290,000 | $275,000 | $815,000 |
|  |  |  |  |  |

2. The production budget for July through October:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | Aug. | Sept. | Oct. |
| Budgeted sales (pairs) | 6,000 | 7,000 | 5,000 | 4,000 |
| Add desired ending inventory | 700 | 500 | 400 | 300 |
| Total needs | 6,700 | 7,500 | 5,400 | 4,300 |
| Less beginning inventory | 600 | 700 | 500 | 400 |
| Required production (pairs) | 6,100 | 6,800 | 4,900 | 3,900 |
|  |  |  |  |  |

**Problem 8-19** (continued)

3. The direct materials budget for the third quarter:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | July |  | Aug. |  | Sept. |  | Quarter |
| Required production—pairs (above) | 6,100 |  | 6,800 |  | 4,900 |  | 17,800 |
| Raw materials needs per pair (lbs.) | × 2 |  | × 2 |  | × 2 |  | × 2 |
| Production needs (lbs.) | 12,200 |  | 13,600 |  | 9,800 |  | 35,600 |
| Add desired ending inventory | 2,720 |  | 1,960 |  | 1,560 | \* | 1,560 |
| Total needs | 14,920 |  | 15,560 |  | 11,360 |  | 37,160 |
| Less beginning inventory | 2,440 |  | 2,720 |  | 1,960 |  | 2,440 |
| Raw materials to be purchased | 12,480 |  | 12,840 |  | 9,400 |  | 34,720 |
| Cost of raw materials to be purchased at $2.50 per lb. | $31,200 |  | $32,100 |  | $23,500 |  | $86,800 |
|  |  |  |  |  |  |  |  |

\*3,900 pairs (October) × 2 lbs. per pair= 7,800 lbs.;  
 7,800 lbs. × 20% = 1,560 lbs.

The schedule of expected cash disbursements:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | Aug. | Sept. | Quarter |
| Accounts payable, beginning balance | $11,400 |  |  | $11,400 |
| July purchases:  $31,200 × 60%, 40% | 18,720 | $12,480 |  | 31,200 |
| August purchases:  $32,100 × 60%, 40% |  | 19,260 | $12,840 | 32,100 |
| September purchases: $23,500 × 60% |  |  | 14,100 | 14,100 |
| Total cash disbursements | $30,120 | $31,740 | $26,940 | $88,800 |
|  |  |  |  |  |

**Problem 8-20** (60 minutes)

1. Schedule of cash receipts:

|  |  |
| --- | --- |
| Cash sales—June | $ 60,000 |
| Collections on accounts receivable: |  |
| May 31 balance | 72,000 |
| June (50% × 190,000) | 95,000 |
| Total cash receipts | $227,000 |
|  |  |
| Schedule of cash payments for purchases: |  |
|  |  |
| May 31 accounts payable balance | $ 90,000 |
| June purchases (40% × 200,000) | 80,000 |
| Total cash payments | $170,000 |
|  |  |

|  |  |
| --- | --- |
| Phototec, Inc. | |
| Cash Budget | |
| For the Month of June | |
|  | |
| Cash balance, beginning | $   8,000 |
| Add receipts from customers (above) | 227,000 |
| Total cash available | 235,000 |
| Less disbursements: |  |
| Purchase of inventory (above) | 170,000 |
| Selling and administrative expenses | 51,000 |
| Purchases of equipment | 9,000 |
| Total cash disbursements | 230,000 |
| Excess of receipts over disbursements | 5,000 |
| Financing: |  |
| Borrowings—note | 18,000 |
| Repayments—note | (15,000) |
| Interest | (500) |
| Total financing | 2,500 |
| Cash balance, ending | $   7,500 |
|  |  |

**Problem 8-20** (continued)

|  |  |  |  |
| --- | --- | --- | --- |
| 2. | Phototec, Inc. Budgeted Income Statement For the Month of June | | |
|  | Sales |  | $250,000 |
|  | Cost of goods sold: |  |  |
|  | Beginning inventory | $ 30,000 |  |
|  | Purchases | 200,000 |  |
|  | Goods available for sale | 230,000 |  |
|  | Ending inventory | 40,000 |  |
|  | Cost of goods sold |  | 190,000 |
|  | Gross margin |  | 60,000 |
|  | Selling and administrative expenses ($51,000 + $2,000) |  | 53,000 |
|  | Net operating income |  | 7,000 |
|  | Interest expense |  | 500 |
|  | Net income |  | $   6,500 |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
| 3. | Phototec, Inc. Budgeted Balance Sheet June 30 | |
|  | *Assets* |  |
|  | Cash | $   7,500 |
|  | Accounts receivable (50% × 190,000) | 95,000 |
|  | Inventory | 40,000 |
|  | Buildings and equipment, net of depreciation  ($500,000 + $9,000 – $2,000) | 507,000 |
|  | Total assets | $649,500 |
|  |  |  |
|  | Liabilities and Stockholders’ Equity |  |
|  | Accounts payable (60% × 200,000) | $120,000 |
|  | Note payable | 18,000 |
|  | Capital stock | 420,000 |
|  | Retained earnings ($85,000 + $6,500) | 91,500 |
|  | Total liabilities and equity | $649,500 |
|  |  |  |

**Problem 8-21** (45 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  | |
|  |  | July | August | September | Quarter |
|  | From accounts receivable: |  |  |  |  |
|  | May sales $360,000 × 2% | $   7,200 |  |  | $      7,200 |
|  | June sales $280,000 × 70% | 196,000 |  |  | 196,000 |
|  | $280,000 × 2% |  | $   5,600 |  | 5,600 |
|  | From budgeted sales: |  |  |  |  |
|  | July sales $350,000 × 25% | 87,500 |  |  | 87,500 |
|  | $350,000 × 70% |  | 245,000 |  | 245,000 |
|  | $350,000 × 2% |  |  | $ 7,000 | 7,000 |
|  | August sales $420,000 × 25% |  | 105,000 |  | 105,000 |
|  | $420,000 × 70% |  |  | 294,000 | 294,000 |
|  | September sales $360,000 × 25% |  |  | 90,000 | 90,000 |
|  | Total cash collections | $290,700 | $355,600 | $391,000 | $1,037,300 |
|  |  |  |  |  |  |

**Problem 8-21** (continued)

2. Cash budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |
|  |  | July | August | Sept. | Quarter |
|  | Cash balance, beginning | $ 43,000 | $ 28,700 | $ 24,300 | $   43,000 |
|  | Add receipts: |  |  |  |  |
|  | Collections from customers | 290,700 | 355,600 | 391,000 | 1,037,300 |
|  | Total cash available | 333,700 | 384,300 | 415,300 | 1,080,300 |
|  | Less disbursements: |  |  |  |  |
|  | Merchandise purchases | 160,000 | 170,000 | 155,000 | 485,000 |
|  | Salaries and wages | 70,000 | 70,000 | 65,000 | 205,000 |
|  | Advertising | 80,000 | 90,000 | 100,000 | 270,000 |
|  | Rent payments | 30,000 | 30,000 | 30,000 | 90,000 |
|  | Equipment purchases | 25,000 | 0 | 0 | 25,000 |
|  | Total disbursements | 365,000 | 360,000 | 350,000 | 1,075,000 |
|  | Excess (deficiency) of receipts over disbursements | (31,300) | 24,300 | 65,300 | 5,300 |
|  | Financing: |  |  |  |  |
|  | Borrowings | 60,000 | 0 | 0 | 60,000 |
|  | Repayments | 0 | 0 | (60,000) | (60,000) |
|  | Interest | 0 | 0 | (2,000) | (2,000) |
|  | Total financing | 60,000 | 0 | (62,000) | (2,000) |
|  | Cash balance, ending | $ 28,700 | $ 24,300 | $  3,300 | $     3,300 |
|  |  |  |  |  |  |

3. If the company needs a $20,000 minimum cash balance to start each month, then the loan cannot be repaid in full by September 30. If the loan is repaid in full, the cash balance will drop to only $3,300 on September 30, as shown above.

**Problem 8-22** (45 minutes)

1. Stokes is using the budget as a club to pressure employees and as a way to find someone to blame rather than as a legitimate planning and control tool. His planning seems to consist of telling everyone to increase sales volume by 40%. This kind of “planning” requires no analysis, no intelligence, no business insight, and is very likely viewed with contempt by the employees of the company.

2. The way in which the budget is being used is likely to breed hostility, tension, mistrust, lack of respect, and actions designed to meet targets using any means available. Unreasonable targets imposed from the top, coupled with a “no excuses” policy and the threat of being fired, create an ideal breeding ground for questionable business practices. Managers who would not, under ordinary circumstances, cheat or cut corners may do so if put under this kind of pressure.

3. As the old saying goes, Keri Kalani is “between a rock and a hard place.” The IMA Statement of Ethical Professional Practice states that management accountants have a responsibility to “disclose all relevant information that could reasonably be expected to influence an intended user’s understanding of the reports, analyses, or recommendations.” Assuming that Keri helps prepare the Production Department’s reports to top management, collaborating with her boss in hiding losses due to defective disk drives would clearly violate this standard. Apart from the misrepresentation on the accounting reports, the policy of shipping defective returned units to customers is bound to have a negative effect on the company’s reputation. If this policy were to become widely known, it would very likely have a devastating effect on the company’s future sales. Moreover, this practice may be illegal under statutes designed to protect consumers.

Having confronted her boss with no satisfactory resolution of the problem, Keri must now decide what to do. The IMA Statement of Ethical Professional Practice suggests that Keri go to the next higher level in management to present her case. Unfortunately, in the prevailing moral climate at PrimeDrive, she is unlikely to win any blue ribbons for blowing the whistle on her boss. All of the managers below Stokes are likely to be in fear of losing their own jobs and many of them may have taken actions to meet Stokes’ targets that they are not proud

**Problem 8-22** (continued)

of either. It would take tremendous courage for Keri to take the problem all the way up to Stokes himself—particularly in view of his less-than-humane treatment of subordinates. And going to the Board of Directors is unlikely to work either since Stokes and his venture capital firm apparently control the Board. Resigning by writing a letter to the individual who is most likely to be concerned and capable of taking action may be Keri’s only remaining ethical course of action. Of course, she must pay her rent, so hopefully she has good alternative employment opportunities.

Note: This problem is very loosely based on the MiniScribe scandal reported in the December, 1992 issue of *Management Accounting* as well as in other business publications. After going bankrupt, it was discovered that managers at MiniScribe had perpetrated massive fraud as a result of the unrelenting pressure to meet unrealistic targets. Q. T. Wiles, the real chairman of MiniScribe, was reported to have behaved much as described in this problem. Keri Kalani is, alas, a fabrication. Hopefully, there were people like Keri at MiniScribe who tried to do something to stop the fraud.

**Problem 8-23** (45 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | April | May | June |  | Quarter |
|  | From accounts receivable | $141,000 | $   7,200 |  |  | $148,200 |
|  | From April sales: |  |  |  |  |  |
|  | 20% × 200,000 | 40,000 |  |  |  | 40,000 |
|  | 75% × 200,000 |  | 150,000 |  |  | 150,000 |
|  | 4% × 200,000 |  |  | $   8,000 |  | 8,000 |
|  | From May sales: |  |  |  |  |  |
|  | 20% × 300,000 |  | 60,000 |  |  | 60,000 |
|  | 75% × 300,000 |  |  | 225,000 |  | 225,000 |
|  | From June sales: |  |  |  |  |  |
|  | 20% × 250,000 |  |  | 50,000 |  | 50,000 |
|  | Total cash collections | $181,000 | $217,200 | $283,000 |  | $681,200 |
|  |  |  |  |  |  |  |

**Problem 8-23** (continued)

2. Cash budget:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | April | May | June |  | Quarter |
|  | Cash balance, beginning | $ 26,000 | $ 27,000 | $ 20,200 |  | $ 26,000 |
|  | Add receipts: |  |  |  |  |  |
|  | Collections from customers | 181,000 | 217,200 | 283,000 |  | 681,200 |
|  | Total available | 207,000 | 244,200 | 303,200 |  | 707,200 |
|  | Less disbursements: |  |  |  |  |  |
|  | Merchandise purchases | 108,000 | 120,000 | 180,000 |  | 408,000 |
|  | Payroll | 9,000 | 9,000 | 8,000 |  | 26,000 |
|  | Lease payments | 15,000 | 15,000 | 15,000 |  | 45,000 |
|  | Advertising | 70,000 | 80,000 | 60,000 |  | 210,000 |
|  | Equipment purchases | 8,000 | — | — |  | 8,000 |
|  | Total disbursements | 210,000 | 224,000 | 263,000 |  | 697,000 |
|  | Excess (deficiency) of receipts over disbursements | (3,000) | 20,200 | 40,200 |  | 10,200 |
|  | Financing: |  |  |  |  |  |
|  | Borrowings | 30,000 | — | — |  | 30,000 |
|  | Repayments | — | — | (30,000) |  | (30,000) |
|  | Interest | — | — | (1,200) |  | (1,200) |
|  | Total financing | 30,000 | — | (31,200) |  | (1,200) |
|  | Cash balance, ending | $ 27,000 | $ 20,200 | $   9,000 |  | $   9,000 |
|  |  |  |  |  |  |  |

3. If the company needs a minimum cash balance of $20,000 to start each month, the loan cannot be repaid in full by June 30. Some portion of the loan balance will have to be carried over to July.

**Problem 8-24** (60 minutes)

1. a. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Year 2 Quarter | | | |  |  |
|  | First | Second | Third | Fourth |  | Total |
| Year 1—Fourth quarter sales: |  |  |  |  |  |  |
| $300,000 × 65% | $195,000 |  |  |  |  | $  195,000 |
| Year 2—First quarter sales: |  |  |  |  |  |  |
| $400,000 × 33% | 132,000 |  |  |  |  | 132,000 |
| $400,000 × 65% |  | $260,000 |  |  |  | 260,000 |
| Year 2—Second quarter sales: |  |  |  |  |  |  |
| $500,000 × 33% |  | 165,000 |  |  |  | 165,000 |
| $500,000 × 65% |  |  | $325,000 |  |  | 325,000 |
| Year 2—Third quarter sales: |  |  |  |  |  |  |
| $600,000 × 33% |  |  | 198,000 |  |  | 198,000 |
| $600,000 × 65% |  |  |  | $390,000 |  | 390,000 |
| Year 2—Fourth quarter sales: |  |  |  |  |  |  |
| $480,000 × 33% |  |  |  | 158,400 |  | 158,400 |
| Total cash collections | $327,000 | $425,000 | $523,000 | $548,400 |  | $1,823,400 |
|  |  |  |  |  |  |  |

**Problem 8-24** (continued)

b. Schedule of budgeted cash disbursements for merchandise purchases:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Year 2 Quarter | | | |  |  |
|  | First | Second | Third | Fourth |  | Total |
| Year 1—Fourth quarter purchases: |  |  |  |  |  |  |
| $180,000 × 80% | $144,000 |  |  |  |  | $   144,000 |
| Year 2—First quarter purchases: |  |  |  |  |  |  |
| $260,000 × 20% | 52,000 |  |  |  |  | 52,000 |
| $260,000 × 80% |  | $208,000 |  |  |  | 208,000 |
| Year 2—Second quarter purchases: |  |  |  |  |  |  |
| $310,000 × 20% |  | 62,000 |  |  |  | 62,000 |
| $310,000 × 80% |  |  | $248,000 |  |  | 248,000 |
| Year 2—Third quarter purchases: |  |  |  |  |  |  |
| $370,000 × 20% |  |  | 74,000 |  |  | 74,000 |
| $370,000 × 80% |  |  |  | $296,000 |  | 296,000 |
| Year 2—Fourth quarter purchases: |  |  |  |  |  |  |
| $240,000 × 20% |  |  |  | 48,000 |  | 48,000 |
| Total cash disbursements | $196,000 | $270,000 | $322,000 | $344,000 |  | $1,132,000 |
|  |  |  |  |  |  |  |

**Problem 8-24** (continued)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 2. |  | Year 2 Quarter | | | |  |  |
|  |  | First | Second | Third | Fourth |  | Year |
|  | Budgeted sales | $400,000 | $500,000 | $600,000 | $480,000 |  | $1,980,000 |
|  | Variable expense rate | × 12% | × 12% | × 12% | × 12% |  | × 12% |
|  | Variable expenses | 48,000 | 60,000 | 72,000 | 57,600 |  | 237,600 |
|  | Fixed expenses | 90,000 | 90,000 | 90,000 | 90,000 |  | 360,000 |
|  | Total expenses | 138,000 | 150,000 | 162,000 | 147,600 |  | 597,600 |
|  | Less depreciation | 20,000 | 20,000 | 20,000 | 20,000 |  | 80,000 |
|  | Cash disbursements | $118,000 | $130,000 | $142,000 | $127,600 |  | $   517,600 |
|  |  |  |  |  |  |  |  |

**Problem 8-24** (continued)

3. Cash budget for Year 2:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Year 2 Quarter | | | |  |
|  | First | Second | Third | Fourth | Year |
| Cash balance, beginning | $ 20,000 | $ 23,000 | $ 18,000 | $ 18,500 | $    20,000 |
| Add collections from sales | 327,000 | 425,000 | 523,000 | 548,400 | 1,823,400 |
| Total cash available | 347,000 | 448,000 | 541,000 | 566,900 | 1,843,400 |
| Less disbursements: |  |  |  |  |  |
| Merchandise purchases | 196,000 | 270,000 | 322,000 | 344,000 | 1,132,000 |
| Operating expenses | 118,000 | 130,000 | 142,000 | 127,600 | 517,600 |
| Dividends | 10,000 | 10,000 | 10,000 | 10,000 | 40,000 |
| Land | 0 | 80,000 | 48,500 | 0 | 128,500 |
| Total disbursements | 324,000 | 490,000 | 522,500 | 481,600 | 1,818,100 |
| Excess (deficiency) of receipts over disbursements | 23,000 | (42,000) | 18,500 | 85,300 | 25,300 |
| Financing: |  |  |  |  |  |
| Borrowings | 0 | 60,000 | 0 | 0 | 60,000 |
| Repayments | 0 | 0 | 0 | (60,000) | (60,000) |
| Interest ($60,000 × 1% × 9) | 0 | 0 | 0 | (5,400) | (5,400) |
| Total financing | 0 | 60,000 | 0 | (65,400) | (5,400) |
| Cash balance, ending | $ 23,000 | $ 18,000 | $ 18,500 | $ 19,900 | $    19,900 |
|  |  |  |  |  |  |

**Problem 8-25** (30 minutes)

1. Cadence and Cross used a top-down approach to prepare the budget. That is, they prepared the budget with little or no input from the individuals who would have to implement the budget. In contrast, the recommended approach is a participative budget in which the individuals who have cost control responsibility initiate and fully participate in the budgeting process. Participatory budgets have a number of advantages including: 1) those who are closest to the action are likely to have better information; 2) managers are likely to be more committed to and understand a budget they participated in preparing than a budget that is imposed from above; and 3) participative budgets help to foster a sense that everyone’s input is valued.

2. While Cadence and Cross are undoubtedly pleased with their work, the dissatisfaction expressed by some employees with the budget process is a sign that there may be storm clouds ahead. If employees feel that the budget is unrealistic, the fact that it was imposed can lead to resentment, anger, and a sense of helplessness. Employees may, as a consequence, spend their time and energy complaining about the budget rather than creatively solving problems. And if the budget is indeed unrealistic and managers are held responsible for meeting the budget, unproductive finger-pointing is likely to result as reality fails to live up to expectations.

**Problem 8-26** (120 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | January | February | March | Quarter |
| Cash sales | $28,000 | $32,000 | $34,000 | $  94,000 |
| Credit sales\* | 36,000 | 42,000 | 48,000 | 126,000 |
| Total collections | $64,000 | $74,000 | $82,000 | $220,000 |
|  |  |  |  |  |

\*60% of the preceding month’s sales.

2. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | January | February | March | Quarter |
| Budgeted cost of goods sold (70% of sales) | $49,000 | $56,000 | $59,500 | $164,500 |
| Add desired ending inventory\* | 11,200 | 11,900 | 7,700 | 7,700 |
| Total needs | 60,200 | 67,900 | 67,200 | 172,200 |
| Less beginning inventory | 9,800 | 11,200 | 11,900 | 9,800 |
| Required purchases | $50,400 | $56,700 | $55,300 | $162,400 |
|  |  |  |  |  |

\*At March 30: April sales $55,000 × 70% × 20% = $7,700.

Schedule of expected cash disbursements—merchandise purchases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | January | February | March | Quarter |
| December purchases | $32,550 |  |  | $ 32,550 |
| January purchases | 12,600 | $37,800 |  | 50,400 |
| February purchases |  | 14,175 | $42,525 | 56,700 |
| March purchases |  |  | 13,825 | 13,825 |
| Total disbursements | $45,150 | $51,975 | $56,350 | $153,475 |
|  |  |  |  |  |

**Problem 8-26** (continued)

3. Schedule of expected cash disbursements—selling and administrative expenses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | January | February | March | Quarter |
| Commissions | $12,000 | $12,000 | $12,000 | $36,000 |
| Rent | 1,800 | 1,800 | 1,800 | 5,400 |
| Other expenses | 5,600 | 6,400 | 6,800 | 18,800 |
| Total disbursements | $19,400 | $20,200 | $20,600 | $60,200 |
|  |  |  |  |  |

4. Cash budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | January | February | March | Quarter |
| Cash balance, beginning | $ 6,000 | $ 5,450 | $ 5,275 | $  6,000 |
| Add cash collections | 64,000 | 74,000 | 82,000 | 220,000 |
| Total cash available | 70,000 | 79,450 | 87,275 | 226,000 |
| Less cash disbursements: |  |  |  |  |
| For inventory | 45,150 | 51,975 | 56,350 | 153,475 |
| For operating expenses | 19,400 | 20,200 | 20,600 | 60,200 |
| For equipment | 3,000 | 8,000 | 0 | 11,000 |
| Total disbursements | 67,550 | 80,175 | 76,950 | 224,675 |
| Excess (deficiency) of cash | 2,450 | (725) | 10,325 | 1,325 |
| Financing: |  |  |  |  |
| Borrowings | 3,000 | 6,000 | 0 | 9,000 |
| Repayments | 0 | 0 | (5,000) | (5,000) |
| Interest\* | 0 | 0 | (210) | (210) |
| Total financing | 3,000 | 6,000 | (5,210) | 3,790 |
| Cash balance, ending | $ 5,450 | $ 5,275 | $ 5,115 | $  5,115 |
|  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| \* | $3,000 × 1% × 3 = | $ 90 |
|  | $6,000 × 1% × 2 = | 120 |
|  | Total interest | $210 |

**Problem 8-26** (continued)

5.

|  |  |  |  |
| --- | --- | --- | --- |
| Picanuy Corporation | | |  |
| Income Statement | | |  |
| For the Quarter Ended March 31 | | |  |
| Sales ($70,000 + $80,000 + $85,000) |  | $235,000 |  |
| Cost of goods sold: |  |  |  |
| Beginning inventory (Given) | $  9,800 |  |  |
| Purchases (Part 2) | 162,400 |  |  |
| Goods available for sale | 172,200 |  |  |
| Ending inventory (Part 2) | 7,700 | 164,500 | \* |
| Gross margin |  | 70,500 |  |
| Selling and administrative expenses: |  |  |  |
| Commissions (Part 3) | 36,000 |  |  |
| Rent (Part 3) | 5,400 |  |  |
| Depreciation (Given) | 2,400 |  |  |
| Other expenses (Part 3) | 18,800 | 62,600 |  |
| Net operating income |  | 7,900 |  |
| Interest expense |  | 210 |  |
| Net income |  | $   7,690 |  |
|  |  |  |  |

\* A simpler computation would be: $235,000 × 70% = $164,500.

**Problem 8-26** (continued)

6.

|  |  |
| --- | --- |
| Picanuy Corporation | |
| Balance Sheet | |
| March 31 | |
|  | |
| *Assets* | |
|  |  |
| Current assets: |  |
| Cash (Part 4) | $   5,115 |
| Accounts receivable ($85,000 × 60%) | 51,000 |
| Inventory (Part 2) | 7,700 |
| Total current assets | 63,815 |
| Fixed assets—net  ($110,885 + $3,000 + $8,000 – $2,400) | 119,485 |
| Total assets | $183,300 |
|  |  |

|  |  |  |
| --- | --- | --- |
| Liabilities and Stockholders’ Equity | | |
|  |  |  |
| Accounts payable (Part 2: $55,300 × 75%) |  | $ 41,475 |
| Bank loan payable |  | 4,000 |
| Stockholders’ equity: |  |  |
| Capital stock (Given) | $100,000 |  |
| Retained earnings\* | 37,825 | 137,825 |
| Total liabilities and equity |  | $183,300 |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| \* | Retained earnings, beginning | $30,135 |
|  | Add net income | 7,690 |
|  | Retained earnings, ending | $37,825 |
|  |  |  |

**Problem 8-27** (120 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Total |
| Cash sales | $14,000 | $17,000 | $18,000 | $ 49,000 |
| Credit sales | 48,000 | 56,000 | 68,000 | 172,000 |
| Total collections | $62,000 | $73,000 | $86,000 | $221,000 |
|  |  |  |  |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Total |
| Budgeted cost of goods sold | $42,000 | $51,000 | $54,000 | $147,000 |
| Add desired ending inventory\* | 15,300 | 16,200 | 9,000 | 9,000 |
| Total needs | 57,300 | 67,200 | 63,000 | 156,000 |
| Less beginning inventory | 12,600 | 15,300 | 16,200 | 12,600 |
| Required purchases | $44,700 | $51,900 | $46,800 | $143,400 |
|  |  |  |  |  |

\*At April 30: $51,000 × 30% = $15,300.

At June 30: $50,000 July sales × 60% × 30% = $9,000.

b. Schedule of cash disbursements for purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Total |
| For March purchases | $18,300 |  |  | $18,300 |
| For April purchases | 22,350 | $22,350 |  | 44,700 |
| For May purchases |  | 25,950 | $25,950 | 51,900 |
| For June purchases |  |  | 23,400 | 23,400 |
| Total cash disbursements | $40,650 | $48,300 | $49,350 | $138,300 |
|  |  |  |  |  |

**Problem 8-27** (continued)

3. Schedule of cash disbursements for selling and administrative expenses:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Total |
| Salaries and wages | $ 7,500 | $ 7,500 | $ 7,500 | $22,500 |
| Shipping | 4,200 | 5,100 | 5,400 | 14,700 |
| Advertising | 6,000 | 6,000 | 6,000 | 18,000 |
| Other expenses | 2,800 | 3,400 | 3,600 | 9,800 |
| Total cash disbursements for operating expenses | $20,500 | $22,000 | $22,500 | $65,000 |
|  |  |  |  |  |

4. Cash budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Total |
| Cash balance, beginning | $ 9,000 | $ 8,350 | $ 8,050 | $   9,000 |
| Add cash collections | 62,000 | 73,000 | 86,000 | 221,000 |
| Total cash available | 71,000 | 81,350 | 94,050 | 230,000 |
| Less disbursements: |  |  |  |  |
| For inventory purchases | 40,650 | 48,300 | 49,350 | 138,300 |
| For selling and administrative expenses | 20,500 | 22,000 | 22,500 | 65,000 |
| For equipment purchases | 11,500 | 3,000 | 0 | 14,500 |
| For dividends | 0 | 0 | 3,500 | 3,500 |
| Total disbursements | 72,650 | 73,300 | 75,350 | 221,300 |
| Excess (deficiency) of cash | (1,650) | 8,050 | 18,700 | 8,700 |
| Financing: |  |  |  |  |
| Borrowings | 10,000 | 0 | 0 | 10,000 |
| Repayments | 0 | 0 | (10,000) | (10,000) |
| Interest ($10,000 × 1% × 3) | 0 | 0 | (300) | (300) |
| Total financing | 10,000 | 0 | (10,300) | (300) |
| Cash balance, ending | $ 8,350 | $ 8,050 | $ 8,400 | $   8,400 |
|  |  |  |  |  |

**Problem 8-27** (continued)

5. Income Statement:

|  |  |  |  |
| --- | --- | --- | --- |
| Nordic Company | | |  |
| Income Statement | | |  |
| For the Quarter Ended June 30 | | |  |
|  | | |  |
| Sales |  | $245,000 |  |
| Cost of goods sold: |  |  |  |
| Beginning inventory (given) | $ 12,600 |  |  |
| Purchases (Part 2) | 143,400 |  |  |
| Goods available for sale | 156,000 |  |  |
| Ending inventory (Part 2) | 9,000 | 147,000 | \* |
| Gross margin |  | 98,000 |  |
| Selling and administrative expenses: |  |  |  |
| Salaries and wages (Part 3) | 22,500 |  |  |
| Shipping (Part 3) | 14,700 |  |  |
| Advertising (Part 3) | 18,000 |  |  |
| Depreciation | 6,000 |  |  |
| Other expenses (Part 3) | 9,800 | 71,000 |  |
| Net operating income |  | 27,000 |  |
| Interest expense (Part 4) |  | 300 |  |
| Net income |  | $ 26,700 |  |
|  |  |  |  |

\* A simpler computation would be $245,000 × 60% = $147,000.

**Problem 8-27** (continued)

6. Balance sheet:

|  |  |
| --- | --- |
| Nordic Company | |
| Balance Sheet | |
| June 30 | |
|  | |
| *Assets* | |
| Current assets: |  |
| Cash (Part 4) | $   8,400 |
| Accounts receivable (80% × $90,000) | 72,000 |
| Inventory (Part 2) | 9,000 |
| Total current assets | 89,400 |
| Buildings and equipment, net  ($214,100 + $14,500 – $6,000) | 222,600 |
| Total assets | $312,000 |
|  |  |

|  |  |  |
| --- | --- | --- |
| Liabilities and Stockholders’ Equity | | |
| Current liabilities: |  |  |
| Accounts payable (Part 2: 50% × $46,800) |  | $ 23,400 |
| Stockholders’ equity: |  |  |
| Capital stock | $190,000 |  |
| Retained earnings\* | 98,600 | 288,600 |
| Total liabilities and equity |  | $312,000 |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| \* | Retained earnings, beginning | $ 75,400 |
|  | Add net income | 26,700 |
|  | Total | 102,100 |
|  | Less dividends | 3,500 |
|  | Retained earnings, ending | $ 98,600 |
|  |  |  |

**Case 8-28** (45 minutes)

1. The budgetary control system has several important shortcomings that reduce its effectiveness and may cause it to interfere with good performance. Some of the shortcomings are explained below.

a. *Lack of Coordinated Goals.* Emory had been led to believe high-quality output is the goal; it now appears low cost is the goal. Employees do not know what the goals are and thus cannot make decisions that further the goals.

b. *Influence of Uncontrollable Factors.* Actual performance relative to budget is greatly influenced by uncontrollable factors (i.e., rush orders, lack of prompt maintenance). Thus, the variance reports serve little purpose for performance evaluation or for locating controllable factors to improve performance. As a result, the system does not encourage coordination among departments.

c. *The Short-Run Perspectives.* Monthly evaluations and budget tightening on a monthly basis results in a very short-run perspective. This results in inappropriate decisions (i.e., inspect forklift trucks rather than repair inoperative equipment, fail to report supplies usage).

d. *System Does Not Motivate.* The budgetary system appears to focus on performance evaluation even though most of the essential factors for that purpose are missing. The focus on evaluation and the weaknesses take away an important benefit of the budgetary system—employee motivation.

2. The improvements in the budgetary control system should correct the deficiencies described above. The system should:

a. more clearly define the company’s objectives.

b. develop an accounting reporting system that better matches controllable factors with supervisor responsibility and authority.

c. establish budgets for appropriate time periods that do not change monthly simply as a result of a change in the prior month’s performance.

The entire company from top management down should be educated in sound budgetary procedures.

(Unofficial CMA Solution, adapted)

**Case 8-29** (120+ minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | a. | Sales budget: | April | May | June | Quarter |
|  |  | Budgeted sales in units | 35,000 | 45,000 | 60,000 | 140,000 |
|  |  | Selling price per unit | ×   $8 | ×   $8 | ×   $8 | ×    $8 |
|  |  | Total sales | $280,000 | $360,000 | $480,000 | $1,120,000 |
|  |  |  |  |  |  |  |
|  | b. | Schedule of expected cash collections: | | | | |
|  |  | February sales | $ 48,000 |  |  | $    48,000 |
|  |  | March sales | 112,000 | $ 56,000 |  | 168,000 |
|  |  | April sales | 70,000 | 140,000 | $ 70,000 | 280,000 |
|  |  | May sales |  | 90,000 | 180,000 | 270,000 |
|  |  | June sales |  |  | 120,000 | 120,000 |
|  |  | Total cash collections | $230,000 | $286,000 | $370,000 | $  886,000 |
|  |  |  |  |  |  |  |
|  | c. | Merchandise purchases budget: | | |  |  |
|  |  | Budgeted sales in units | 35,000 | 45,000 | 60,000 | 140,000 |
|  |  | Add budgeted ending inventory\* | 40,500 | 54,000 | 36,000 | 36,000 |
|  |  | Total needs | 75,500 | 99,000 | 96,000 | 176,000 |
|  |  | Less beginning inventory | 31,500 | 40,500 | 54,000 | 31,500 |
|  |  | Required unit purchases | 44,000 | 58,500 | 42,000 | 144,500 |
|  |  | Unit cost | ×   $5 | ×   $5 | ×   $5 | ×    $5 |
|  |  | Required dollar purchases | $220,000 | $292,500 | $210,000 | $  722,500 |
|  |  |  |  |  |  |  |
|  |  | \*90% of the next month’s sales in units. | | | | |

**Case 8-29** (continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | d. | Budgeted cash disbursements for merchandise purchases: | | | | |
|  |  |  | April | May | June | Quarter |
|  |  | March purchases | $ 85,750 |  |  | $ 85,750 |
|  |  | April purchases | 110,000 | $110,000 |  | 220,000 |
|  |  | May purchases |  | 146,250 | $146,250 | 292,500 |
|  |  | June purchases |  |  | 105,000 | 105,000 |
|  |  | Total cash payments | $195,750 | $256,250 | $251,250 | $703,250 |
|  |  |  |  |  |  |  |

**Case 8-29** (continued)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 2. | Cravat Sales Company | | | | |
|  | Cash Budget | | | | |
|  | For the Three Months Ending June 30 | | | | |
|  |  | | | | |
|  | | | April | May | June | Quarter | |
| Cash balance, beginning | | | $ 14,000 | $ 10,250 | $ 10,000 | $ 14,000 | |
| Add receipts from customers (Part 1 b.) | | | 230,000 | 286,000 | 370,000 | 886,000 | |
| Total cash available | | | 244,000 | 296,250 | 380,000 | 900,000 | |
| Less disbursements: | | |  |  |  |  | |
| Purchase of inventory (Part 1 d.) | | | 195,750 | 256,250 | 251,250 | 703,250 | |
| Sales commissions | | | 35,000 | 45,000 | 60,000 | 140,000 | |
| Salaries and wages | | | 22,000 | 22,000 | 22,000 | 66,000 | |
| Utilities | | | 14,000 | 14,000 | 14,000 | 42,000 | |
| Miscellaneous | | | 3,000 | 3,000 | 3,000 | 9,000 | |
| Dividends paid | | | 12,000 | 0 | 0 | 12,000 | |
| Land purchases | | | 0 | 25,000 | 0 | 25,000 | |
| Total disbursements | | | 281,750 | 365,250 | 350,250 | 997,250 | |
| Excess (deficiency) of receipts over disbursements | | | (37,750) | (69,000) | 29,750 | (97,250) | |
| Financing: | | |  |  |  |  | |
| Borrowings | | | 48,000 | 79,000 | 0 | 127,000 | |
| Repayments\* | | | 0 | 0 | (16,000) | (16,000) | |
| Interest\* | | | 0 | 0 | (3,020) | (3,020) | |
| Total financing | | | 48,000 | 79,000 | (19,020) | 107,980 | |
| Cash balance, ending | | | $ 10,250 | $ 10,000 | $ 10,730 | $ 10,730 | |
|  | | |  |  |  |  | |

\* This is the maximum amount (in increments of $1,000) that the company could repay to the bank and still have at least a $10,000 ending balance.

|  |  |  |  |
| --- | --- | --- | --- |
| \*\* | $48,000 × 1% × 3 | = | $1,440 |
|  | $79,000 × 1% × 2 | = | 1,580 |
|  | Total interest | = | $3,020 |

**Case 8-29** (continued)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3. | Cravat Sales Company | | | |
|  | Budgeted Income Statement | | |
|  | For the Three Months Ended June 30 | | |
|  |  |  |  |
|  | Sales revenue (Part 1 a.) |  | $1,120,000 |
|  | Variable expenses: |  |  |
|  | Cost of goods sold  (140,000 ties @ $5 per tie) | $700,000 |  |
|  | Commissions  (140,000 ties @ $1 per tie) | 140,000 | 840,000 |
|  | Contribution margin |  | 280,000 |
|  | Fixed expenses: |  |  |
|  | Wages and salaries | 66,000 |  |
|  | Utilities | 42,000 |  |
|  | Insurance expired | 3,600 |  |
|  | Depreciation | 4,500 |  |
|  | Miscellaneous | 9,000 | 125,100 |
|  | Net operating income |  | 154,900 |
|  | Interest expense |  | 3,020 |
|  | Net income |  | $   151,880 |
|  |  |  |  |

**Case 8-29** (continued)

|  |  |  |
| --- | --- | --- |
| 4. | Cravat Sales Company | |
|  | Budgeted Balance Sheet | |
|  | June 30 | |
|  |  | |
|  | *Assets* | |
|  | Cash (Part 2) | $ 10,730 |
|  | Accounts receivable (see below) | 450,000 |
|  | Inventory (36,000 ties @ $5 per tie) | 180,000 |
|  | Unexpired insurance ($14,400 – $3,600) | 10,800 |
|  | Fixed assets, net of depreciation  ($172,700 + $25,000 – $4,500) | 193,200 |
|  | Total assets | $844,730 |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Liabilities and Stockholders’ Equity | |
|  | Accounts payable, purchases (50% × $210,000.) | $105,000 |
|  | Dividends payable | 12,000 |
|  | Loans payable, bank ($127,000 – $16,000) | 111,000 |
|  | Capital stock, no par | 300,000 |
|  | Retained earnings (see below) | 316,730 |
|  | Total liabilities and equity | $844,730 |
|  |  |  |

|  |  |  |
| --- | --- | --- |
|  | Accounts receivable at June 30: |  |
|  | 25% × May sales of $360,000 | $  90,000 |
|  | 75% × June sales of $480,000 | 360,000 |
|  | Total | $450,000 |
|  |  |  |
|  | Retained earnings at June 30: |  |
|  | Balance, March 31 | $176,850 |
|  | Add net income (Part 3) | 151,880 |
|  | Total | 328,730 |
|  | Less dividends declared | 12,000 |
|  | Balance, June 30 | $316,730 |
|  |  |  |