Chapter 8

Master Budgeting

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** Creating a “budgeting assumptions” tab simplifies the process of determining how changes to a master budget’s underlying assumptions impact all supporting schedules and the projected financial statements.

**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.

**The Foundational 15**

1. The budgeted sales for July are computed as follows:

|  |  |
| --- | --- |
| Unit sales (a) | 10,000 |
| Selling price per unit (b) | $70 |
| Total sales (a) × (b) | $700,000 |

2. The expected cash collections for July are computed as follows:

|  |  |  |
| --- | --- | --- |
|  | | July |
| June sales: $588,000 × 60% | $352,800 |
| July sales: $700,000 × 40% | 280,000 |
| Total cash collections | $632,800 |

3. The accounts receivable balance at the end of July is:

|  |  |
| --- | --- |
| July sales (a) | $700,000 |
| Percent uncollected (b) | 60% |
| Accounts receivable (a) × (b) | $420,000 |

4. The required production for July is computed as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | July | |
| Budgeted sales in units | | 10,000 | |
| Add desired ending inventory\* | | 2,400 | |
| Total needs | | 12,400 | |
| Less beginning inventory\*\* | | 2,000 | |
| Required production | | 10,400 | |
|  | |  | |

\*August sales of 12,000 units × 20% = 2,400 units.

\*\*July sales of 10,000 units × 20% = 2,000 units.

**The Foundational 15** (continued)

5. The raw material purchases for July are computed as follows:

|  |  |  |
| --- | --- | --- |
|  | | July |
| Required production in units of finished goods | 10,400 |
| Units of raw materials needed per unit of finished goods | 5 |
| Units of raw materials needed to meet production | 52,000 |
| Add desired units of ending raw materials inventory\* | 6,100 |
| Total units of raw materials needed | 58,100 |
| Less units of beginning raw materials inventory\*\* | 5,200 |
| Units of raw materials to be purchased | 52,900 |

\*61,000 pounds × 10% = 6,100 pounds.

\*\*52,000 pounds × 10% = 5,200 pounds.

6. The cost of raw material purchases for July is computed as follows:

|  |  |
| --- | --- |
| Units of raw materials to be purchased (a) | 52,900 |
| Unit cost of raw materials (b) | $2.00 |
| Cost of raw materials to be purchased (a) × (b) | $105,800 |

7. The estimated cash disbursements for materials purchases in July is computed as follows:

|  |  |  |
| --- | --- | --- |
|  | | July |
| June purchases: $88,880 × 70% | $62,216 |
| July purchases: $105,800 × 30% | 31,740 |
| Total cash disbursements | $93,956 |

8. The accounts payable balance at the end of July is:

|  |  |
| --- | --- |
| July purchases (a) | $105,800 |
| Percent unpaid (b) | 70% |
| Accounts payable (a) × (b) | $74,060 |

**The Foundational 15** (continued)

9. The estimated raw materials inventory balance at the end of July is computed as follows:

|  |  |
| --- | --- |
| Ending raw materials inventory (pounds) (a) | 6,100 |
| Cost per pound (b) | $2.00 |
| Raw material inventory balance (a) × (b) | $12,200 |

10. The estimated direct labor cost for July is computed as follows:

|  |  |  |
| --- | --- | --- |
|  | | July |
| Required production in units | 10,400 |
| Direct labor hours per unit | ×   2.0 |
| Total direct labor-hours needed (a) | 20,800 |
| Direct labor cost per hour (b) | $15 |
| Total direct labor cost (a) × (b) | $312,000 |

11. The estimated unit product cost is computed as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | Quantity | Cost | Total |
| Direct materials | 5 pounds | $2 per pound | $10.00 |
| Direct labor | 2 hours | $15 per hour | 30.00 |
| Manufacturing overhead | 2 hours | $10 per hour | 20.00 |
| Unit product cost |  |  | $60.00 |

12. The estimated finished goods inventory balance at the end of July is computed as follows:

|  |  |
| --- | --- |
| Ending finished goods inventory in units (a) | 2,400 |
| Unit product cost (b) | $60.00 |
| Ending finished goods inventory (a) × (b) | $144,000 |

**The Foundational 15** (continued)

13. The estimated cost of goods sold for July is computed as follows:

|  |  |
| --- | --- |
| Unit sales (a) | 10,000 |
| Unit product cost (b) | $60.00 |
| Estimated cost of goods sold (a) × (b) | $600,000 |

The estimated gross margin for July is computed as follows:

|  |  |
| --- | --- |
| Total sales (a) | $700,000 |
| Cost of goods sold (b) | 600,000 |
| Estimated gross margin (a) – (b) | $100,000 |

14. The estimated selling and administrative expense for July is computed as follows:

|  |  |  |
| --- | --- | --- |
|  | | *July* |
| Budgeted unit sales | 10,000 |
| Variable selling and administrative  expense per unit | × $1.80 |
| Total variable expense | $18,000 |
| Fixed selling and administrative expenses | 60,000 |
| Total selling and administrative expenses | $78,000 |

15. The estimated net operating income for July is computed as follows:

|  |  |
| --- | --- |
| Gross margin (a) | $100,000 |
| Selling and administrative expenses (b) | 78,000 |
| Net operating income (a) – (b) | $  22,000 |

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. |  | April | May | June | Total |
|  |  |  |  |  |  |
|  | February sales: $230,000 × 10% | $ 23,000 |  |  | $    23,000 |
|  | March sales: $260,000 × 70%, 10% | 182,000 | $ 26,000 |  | 208,000 |
|  | April sales: $300,000 × 20%, 70%, 10% | 60,000 | 210,000 | $ 30,000 | 300,000 |
|  | May sales: $500,000 × 20%, 70% |  | 100,000 | 350,000 | 450,000 |
|  | June sales: $200,000 × 20% |  |  | 40,000 | 40,000 |
|  | Total cash collections | $265,000 | $336,000 | $420,000 | $1,021,000 |

Notice that even though sales peak in May, cash collections peak in June. 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 June 30:

|  |  |
| --- | --- |
| From May sales: $500,000 × 10% | $ 50,000 |
| From June sales: $200,000 × (70% + 10%) | 160,000 |
| Total accounts receivable at June 30 | $210,000 |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Quarter |
| Budgeted unit sales | 50,000 | 75,000 | 90,000 | 215,000 |
| Add desired units of ending finished goods inventory\* | 7,500 | 9,000 | 8,000 | 8,000 |
| Total needs | 57,500 | 84,000 | 98,000 | 223,000 |
| Less units of beginning finished goods inventory | 5,000 | 7,500 | 9,000 | 5,000 |
| Required production in units | 52,500 | 76,500 | 89,000 | 218,000 |

\*10% of the following month’s sales in units.

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Quarter—Year 2 | | | | |
|  | First | Second | Third | Fourth | Year | |
| Required production in units of finished goods | 60,000 | 90,000 | 150,000 | 100,000 | 400,000 | |
| Units of raw materials needed per unit of finished goods | × 3 | × 3 | × 3 | × 3 | × 3 | |
| Units of raw materials needed to meet production | 180,000 | 270,000 | 450,000 | 300,000 | 1,200,000 | |
| Add desired units of ending raw materials inventory | 54,000 | 90,000 | 60,000 | 42,000 | 42,000 | |
| Total units of raw materials needed | 234,000 | 360,000 | 510,000 | 342,000 | 1,242,000 | |
| Less units of beginning raw materials inventory | 36,000 | 54,000 | 90,000 | 60,000 | 36,000 | |
| Units of raw materials to be purchased | 198,000 | 306,000 | 420,000 | 282,000 | 1,206,000 | |
| Unit cost of raw materials | × $1.50 | × $1.50 | × $1.50 | × $1.50 | × $1.50 | |
| Cost of raw materials to purchased | $297,000 | $459,000 | $630,000 | $423,000 | $1,809,000 | |

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

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Required production in units | 8,000 | 6,500 | 7,000 | 7,500 | 29,000 |
|  | Direct labor time per unit (hours) | × 0.35 | × 0.35 | × 0.35 | × 0.35 | × 0.35 |
|  | Total direct labor-hours needed | 2,800 | 2,275 | 2,450 | 2,625 | 10,150 |
|  | Direct labor cost per hour | × $12.00 | × $12.00 | × $12.00 | × $12.00 | × $12.00 |
|  | Total direct labor cost | $ 33,600 | $ 27,300 | $ 29,400 | $ 31,500 | $121,800 |

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Required production in units | 8,000 | 6,500 | 7,000 | 7,500 |  |
|  | Direct labor time per unit (hours) | × 0.35 | × 0.35 | × 0.35 | × 0.35 |  |
|  | Total direct labor-hours needed | 2,800 | 2,275 | 2,450 | 2,625 |  |
|  | Regular hours paid | 2,600 | 2,600 | 2,600 | 2,600 |  |
|  | Overtime hours paid | 200 | 0 | 0 | 25 |  |
|  |  |  |  |  |  |  |
|  | Wages for regular hours (@ $12.00 per hour) | $31,200 | $31,200 | $31,200 | $31,200 | $124,800 |
|  | Overtime wages (@ 1.5 × $12.00 per hour) | 3,600 | 0 | 0 | 450 | 4,050 |
|  | Total direct labor cost | $34,800 | $31,200 | $31,200 | $31,650 | $128,850 |

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Yuvwell Corporation  Manufacturing Overhead Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Budgeted direct labor-hours | 8,000 | 8,200 | 8,500 | 7,800 | 32,500 |
|  | Variable manufacturing overhead rate | × $3.25 | × $3.25 | × $3.25 | × $3.25 | × $3.25 |
|  | Variable manufacturing overhead | $26,000 | $26,650 | $27,625 | $25,350 | $105,625 |
|  | Fixed manufacturing overhead | 48,000 | 48,000 | 48,000 | 48,000 | 192,000 |
|  | Total manufacturing overhead | 74,000 | 74,650 | 75,625 | 73,350 | 297,625 |
|  | Less depreciation | 16,000 | 16,000 | 16,000 | 16,000 | 64,000 |
|  | Cash disbursements for manufacturing overhead | $58,000 | $58,650 | $59,625 | $57,350 | $233,625 |

|  |  |  |
| --- | --- | --- |
| 2. | Total budgeted manufacturing overhead for the year (a) | $297,625 |
|  | Budgeted direct labor-hours for the year (b) | 32,500 |
|  | Predetermined overhead rate for the year (a) ÷ (b) | $9.16 |

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Weller Company  Selling and Administrative Expense Budget | | | | | |
|  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
| Budgeted unit sales | 15,000 | 16,000 | 14,000 | 13,000 | 58,000 |
| Variable selling and administrative expense per unit | × $2.50 | × $2.50 | × $2.50 | × $2.50 | × $2.50 |
| Variable selling and administrative expense | $ 37,500 | $ 40,000 | $ 35,000 | $ 32,500 | $145,000 |
| Fixed selling and administrative expenses: |  |  |  |  |  |
| Advertising | 8,000 | 8,000 | 8,000 | 8,000 | 32,000 |
| Executive salaries | 35,000 | 35,000 | 35,000 | 35,000 | 140,000 |
| Insurance | 5,000 |  | 5,000 |  | 10,000 |
| Property taxes |  | 8,000 |  |  | 8,000 |
| Depreciation | 20,000 | 20,000 | 20,000 | 20,000 | 80,000 |
| Total fixed selling and administrative expenses | 68,000 | 71,000 | 68,000 | 63,000 | 270,000 |
| Total selling and administrative expenses | 105,500 | 111,000 | 103,000 | 95,500 | 415,000 |
| Less depreciation | 20,000 | 20,000 | 20,000 | 20,000 | 80,000 |
| Cash disbursements for selling and administrative expenses | $ 85,500 | $ 91,000 | $ 83,000 | $ 75,500 | $335,000 |

**Exercise 8-7** (15 minutes)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Garden Depot  Cash Budget | | | | | |
|  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
| Beginning cash balance | $ 20,000 | $ 10,000 | $ 35,800 | $ 25,800 | $ 20,000 |
| Total cash receipts | 180,000 | 330,000 | 210,000 | 230,000 | 950,000 |
| Total cash available | 200,000 | 340,000 | 245,800 | 255,800 | 970,000 |
| Less total cash disbursements | 260,000 | 230,000 | 220,000 | 240,000 | 950,000 |
| Excess (deficiency) of cash available over disbursements | (60,000) | 110,000 | 25,800 | 15,800 | 20,000 |
| Financing: |  |  |  |  |  |
| Borrowings (at beginnings of quarters)\* | 70,000 |  |  |  | 70,000 |
| Repayments (at ends of quarters) |  | (70,000) |  |  | (70,000) |
| Interest§ |  | (4,200) |  |  | (4,200) |
| Total financing | 70,000 | (74,200) |  |  | (4,200) |
| Ending cash balance | $ 10,000 | $ 35,800 | $ 25,800 | $ 15,800 | $ 15,800 |

\* Since the deficiency of cash available over disbursements is $60,000, the company must borrow $70,000 to maintain the desired ending cash balance of $10,000.

§ $70,000 × 3% × 2 = $4,200.

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

|  |  |
| --- | --- |
| Gig Harbor Boating  Budgeted Income Statement | |
| Sales (460 units × $1,950 per unit) | $897,000 |
| Cost of goods sold (460 units × $1,575 per unit) | 724,500 |
| Gross margin | 172,500 |
| Selling and administrative expenses\* | 139,500 |
| Net operating income | 33,000 |
| Interest expense | 14,000 |
| Net income | $ 19,000 |

\*(460 units × $75 per unit) + $105,000 = $139,500.

**Exercise 8-9** (15 minutes)

|  |  |  |
| --- | --- | --- |
| Mecca Copy  Budgeted Balance Sheet | | |
| Assets |  |  |
| Current assets: |  |  |
| Cash\* | $12,200 |  |
| Accounts receivable | 8,100 |  |
| Supplies inventory | 3,200 |  |
| Total current assets |  | $23,500 |
| Plant and equipment: |  |  |
| Equipment | 34,000 |  |
| Accumulated depreciation | (16,000) |  |
| Plant and equipment, net |  | 18,000 |
| Total assets |  | $41,500 |
|  |  |  |
| Liabilities and Stockholders' Equity |  |  |
| Current liabilities: |  |  |
| Accounts payable |  | $ 1,800 |
| Stockholders' equity: |  |  |
| Common stock | $ 5,000 |  |
| Retained earnings# | 34,700 |  |
| Total stockholders' equity |  | 39,700 |
| Total liabilities and stockholders' equity |  | $41,500 |

\*Plug figure.

|  |  |  |
| --- | --- | --- |
| # | Retained earnings, beginning balance | $28,000 |
|  | Add net income | 11,500 |
|  |  | 39,500 |
|  | Deduct dividends | 4,800 |
|  | Retained earnings, ending balance | $34,700 |

**Exercise 8-10** (45 minutes)

1. Production budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | July | August | Septem-ber | October |
|  | Budgeted unit sales | 35,000 | 40,000 | 50,000 | 30,000 |
|  | Add desired units of ending finished goods inventory | 11,000 | 13,000 | 9,000 | 7,000 |
|  | Total needs | 46,000 | 53,000 | 59,000 | 37,000 |
|  | Less units of beginning finished goods inventory | 10,000 | 11,000 | 13,000 | 9,000 |
|  | Required production in units | 36,000 | 42,000 | 46,000 | 28,000 |

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 forthcoming decrease in sales. Therefore, production is less than sales during these months.

**Exercise 8-10** (continued)

3. Direct materials budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | July | August | Septem-ber |  | Third Quarter |
| Required production in units of finished goods | 36,000 | 42,000 | 46,000 |  | 124,000 |
| Units of raw materials needed per unit of finished goods | × 3 cc | × 3 cc | × 3 cc |  | × 3 cc |
| Units of raw materials needed to meet production | 108,000 | 126,000 | 138,000 |  | 372,000 |
| Add desired units of ending raw materials inventory | 63,000 | 69,000 | 42,000 | \* | 42,000 |
| Total units of raw materials needed | 171,000 | 195,000 | 180,000 |  | 414,000 |
| Less units of beginning raw materials inventory | 54,000 | 63,000 | 69,000 |  | 54,000 |
| Units of raw materials to be purchased | 117,000 | 132,000 | 111,000 |  | 360,000 |

\* 28,000 units (October production) × 3 cc per unit = 84,000 cc;  
 84,000 cc × 1/2 = 42,000 cc.

As shown in part (1), production is greatest in September; however, as shown in the raw material purchases budget, purchases of materials are greatest a month earlier—in August. The reason for the large purchases of materials in August is that the materials must be on hand to support the heavy production scheduled for September.

**Exercise 8-11** (20 minutes)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | *Quarter (000 omitted)* | | | | | | | |  | |
|  | *1* | | *2* | | *3* | | *4* | | *Year* | |
| Beginning cash balance | $ 6 | \* | $ 5 |  | $  5 |  | $  5 |  | $  6 |  |
| Add collections from customers | 65 |  | 70 |  | 96 | \* | 92 |  | 323 | \* |
| Total cash available | 71 | \* | 75 |  | 101 |  | 97 |  | 329 |  |
| Less cash disbursements: |  |  |  |  |  |  |  |  |  |  |
| Purchase of inventory | 35 | \* | 45 | \* | 48 |  | 35 | \* | 163 |  |
| Selling and administrative expenses | 28 |  | 30 | \* | 30 | \* | 25 |  | 113 | \* |
| Equipment purchases | 8 | \* | 8 | \* | 10 | \* | 10 |  | 36 | \* |
| Dividends | 2 | \* | 2 | \* | 2 | \* | 2 | \* | 8 |  |
| Total cash disbursements | 73 |  | 85 | \* | 90 |  | 72 |  | 320 |  |
| Excess (deficiency) of cash available over disbursements | (2) | \* | (10) |  | 11 | \* | 25 |  | 9 |  |
| Financing: |  |  |  |  |  |  |  |  |  |  |
| Borrowings | 7 |  | 15 | \* | 0 |  | 0 |  | 22 |  |
| Repayments (including interest) | 0 |  | 0 |  | (6) |  | (17) | \* | (23) |  |
| Total financing | 7 |  | 15 |  | (6) |  | (17) |  | (1) |  |
| Ending cash balance | $ 5 |  | $ 5 |  | $  5 |  | $  8 |  | $  8 |  |

\* Given.

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

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | July | August | Sept. |  | Quarter |
|  | From accounts receivable | $136,000 |  |  |  | $136,000 |
|  | From July sales: |  |  |  |  |  |
|  | 35% × 210,000 | 73,500 |  |  |  | 73,500 |
|  | 65% × 210,000 |  | $136,500 |  |  | 136,500 |
|  | From August sales: |  |  |  |  |  |
|  | 35% × 230,000 |  | 80,500 |  |  | 80,500 |
|  | 65% × 230,000 |  |  | $149,500 |  | 149,500 |
|  | From September sales: |  |  |  |  |  |
|  | 35% × 220,000 |  |  | 77,000 |  | 77,000 |
|  | Total cash collections | $209,500 | $217,000 | $226,500 |  | $653,000 |
|  |  |  |  |  |  |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| Budgeted cost of goods sold (60% of sales) | $126,000 | $138,000 | $132,000 | $396,000 |
| Add desired ending merchandise inventory\* | 41,400 | 39,600 | 43,200 | 43,200 |
| Total needs | 167,400 | 177,600 | 175,200 | 439,200 |
| Less beginning merchandise inventory | 62,000 | 41,400 | 39,600 | 62,000 |
| Required purchases | $105,400 | $136,200 | $135,600 | $377,200 |
|  |  |  |  |  |

\*At July 31: $138,000 × 30% = $41,400.

b. Schedule of cash disbursements for purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| From accounts payable | $ 71,100 |  |  | $ 71,100 |
| For July purchases | 42,160 | $ 63,240 |  | 105,400 |
| For August purchases |  | 54,480 | $ 81,720 | 136,200 |
| For September purchases |  |  | 54,240 | 54,240 |
| Total cash disbursements | $113,260 | $117,720 | $135,960 | $366,940 |
|  |  |  |  |  |

**Exercise 8-12** (continued)

3.

|  |  |
| --- | --- |
| Beech Corporation  Income Statement  For the Quarter Ended September 30 | |
| Sales ($210,000 + $230,000 + $220,000) | $660,000 |
| Cost of goods sold (Part 2a) | 396,000 |
| Gross margin | 264,000 |
| Selling and administrative expenses ($60,000 × 3 months) | 180,000 |
| Net operating income | 84,000 |
| Interest expense | 0 |
| Net income | $ 84,000 |
|  |  |

4.

|  |  |  |
| --- | --- | --- |
| Beech Corporation | | |
| Balance Sheet | | |
| September 30 | | |
|  | | |
| *Assets* | | |
|  | |  |
| Cash ($90,000 + $653,000 – $366,940 – ($55,000 × 3)) | $211,060 | |
| Accounts receivable ($220,000 × 65%) | 143,000 | |
| Inventory (Part 2a) | 43,200 | |
| Plant and equipment, net ($210,000 – ($5,000 ×3)) | 195,000 | |
| Total assets | $592,260 | |
|  |  | |

|  |  |
| --- | --- |
| *Liabilities and Stockholders’ Equity* | |
| Accounts payable ($135,600 × 60%) | $ 81,360 |
| Common stock (Given) | 327,000 |
| Retained earnings ($99,900 + $84,000) | 183,900 |
| Total liabilities and stockholders’ equity | $592,260 |

**Exercise 8-13** (30 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | July | August | September |  | Quarter |
|  | From accounts receivable | $136,000 |  |  |  | $136,000 |
|  | From July sales: |  |  |  |  |  |
|  | 45% × 210,000 | 94,500 |  |  |  | 94,500 |
|  | 55% × 210,000 |  | $115,500 |  |  | 115,500 |
|  | From August sales: |  |  |  |  |  |
|  | 45% × 230,000 |  | 103,500 |  |  | 103,500 |
|  | 55% × 230,000 |  |  | $126,500 |  | 126,500 |
|  | From September sales: |  |  |  |  |  |
|  | 45% × 220,000 |  |  | 99,000 |  | 99,000 |
|  | Total cash collections | $230,500 | $219,000 | $225,500 |  | $675,000 |
|  |  |  |  |  |  |  |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| Budgeted cost of goods sold | $126,000 | $138,000 | $132,000 | $396,000 |
| Add desired ending merchandise inventory\* | 27,600 | 26,400 | 28,800 | 28,800 |
| Total needs | 153,600 | 164,400 | 160,800 | 424,800 |
| Less beginning merchandise inventory | 62,000 | 27,600 | 26,400 | 62,000 |
| Required purchases | $ 91,600 | $136,800 | $134,400 | $362,800 |
|  |  |  |  |  |

\*At July 31: $138,000 × 20% = $27,600.

b. Schedule of cash disbursements for purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | Sept. | Total |
| From accounts payable | $ 71,100 |  |  | $ 71,100 |
| For July purchases | 27,480 | $ 64,120 |  | 91,600 |
| For August purchases |  | 41,040 | $ 95,760 | 136,800 |
| For September purchases |  |  | 40,320 | 40,320 |
| Total cash disbursements | $ 98,580 | $105,160 | $136,080 | $339,820 |
|  |  |  |  |  |

**Exercise 8-13** (continued)

3.

|  |  |
| --- | --- |
| Beech Corporation  Income Statement  For the Quarter Ended September 30 | |
| Sales ($210,000 + $230,000 + $220,000) | $660,000 |
| Cost of goods sold (Part 2a) | 396,000 |
| Gross margin | 264,000 |
| Selling and administrative expenses ($60,000 × 3 months) | 180,000 |
| Net operating income | 84,000 |
| Interest expense | 0 |
| Net income | $ 84,000 |
|  |  |

4.

|  |  |  |
| --- | --- | --- |
| Beech Corporation | | |
| Balance Sheet | | |
| September 30 | | |
|  | | |
| *Assets* | | |
|  | |  |
| Cash ($90,000 + $675,000 – $339,820 – ($55,000 × 3)) | $260,180 | |
| Accounts receivable ($220,000 × 55%) | 121,000 | |
| Inventory (Part 2a) | 28,800 | |
| Plant and equipment, net ($210,000 – ($5,000 ×3)) | 195,000 | |
| Total assets | $604,980 | |
|  |  | |

|  |  |
| --- | --- |
| *Liabilities and Stockholders’ Equity* | |
| Accounts payable ($134,400 × 70%) | $ 94,080 |
| Common stock (Given) | 327,000 |
| Retained earnings ($99,900 + $84,000) | 183,900 |
| Total liabilities and stockholders’ equity | $604,980 |

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | Jessi Corporation Sales Budget | | | | | |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Budgeted unit sales | 11,000 | 12,000 | 14,000 | 13,000 | 50,000 |
|  | Selling price per unit | × $18.00 | × $18.00 | × $18.00 | × $18.00 | × $18.00 |
|  | Total sales | $198,000 | $216,000 | $252,000 | $234,000 | $900,000 |
|  |  |  |  |  |  |  |
| Schedule of Expected Cash Collections | | | | | | |
|  |  |  |  |  |  |  |
|  | Beginning accounts receivable | $ 70,200 |  |  |  | $ 70,200 |
|  | 1st Quarter sales | 128,700 | $ 59,400 |  |  | 188,100 |
|  | 2nd Quarter sales |  | 140,400 | $ 64,800 |  | 205,200 |
|  | 3rd Quarter sales |  |  | 163,800 | $ 75,600 | 239,400 |
|  | 4th Quarter sales |  |  |  | 152,100 | 152,100 |
|  | Total cash collections | $198,900 | $199,800 | $228,600 | $227,700 | $855,000 |

**Exercise 8-14** (continued)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2. | Jessi CorporationProduction Budget | | | | | |
|  |  | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | Year |
|  | Budgeted unit sales | 11,000 | 12,000 | 14,000 | 13,000 | 50,000 |
|  | Add desired units of ending finished goods inventory | 1,800 | 2,100 | 1,950 | 1,850 | 1,850 |
|  | Total needs | 12,800 | 14,100 | 15,950 | 14,850 | 51,850 |
|  | Less units of beginning finished goods inventory | 1,650 | 1,800 | 2,100 | 1,950 | 1,650 |
|  | Required production in units | 11,150 | 12,300 | 13,850 | 12,900 | 50,200 |

**Exercise 8-15** (30 minutes)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. 1. 1. | Hruska Corporation  Direct Labor Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st Quarter* | *2nd Quarter* | *3rd Quarter* | *4th Quarter* | *Year* |
|  | Required production in units | 12,000 | 10,000 | 13,000 | 14,000 | 49,000 |
|  | Direct labor time per unit (hours) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
|  | Total direct labor-hours needed | 2,400 | 2,000 | 2,600 | 2,800 | 9,800 |
|  | Direct labor cost per hour | $12.00 | $12.00 | $12.00 | $12.00 | $12.00 |
|  | Total direct labor cost | $28,800 | $24,000 | $31,200 | $33,600 | $117,600 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2. 1. 1. | Hruska Corporation  Manufacturing Overhead Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st Quarter* | *2nd Quarter* | *3rd Quarter* | *4th Quarter* | *Year* |
|  | Budgeted direct labor-hours | 2,400 | 2,000 | 2,600 | 2,800 | 9,800 |
|  | Variable manufacturing overhead rate | $1.75 | $1.75 | $1.75 | $1.75 | $1.75 |
|  | Variable manufacturing overhead | $ 4,200 | $ 3,500 | $ 4,550 | $ 4,900 | $ 17,150 |
|  | Fixed manufacturing overhead | 86,000 | 86,000 | 86,000 | 86,000 | 344,000 |
|  | Total manufacturing overhead | 90,200 | 89,500 | 90,550 | 90,900 | 361,150 |
|  | Less depreciation | 23,000 | 23,000 | 23,000 | 23,000 | 92,000 |
|  | Cash disbursements for  manufacturing overhead | $67,200 | $66,500 | $67,550 | $67,900 | $269,150 |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. 1. | Zan Corporation  Direct Materials Budget | | | | | | | | | |
|  |  |  | |  | |  | |  | |  |
|  |  | | 1st Quarter | | *2nd Quarter* | | *3rd Quarter* | | *4th Quarter* | *Year* |
|  | Required production in units of finished goods | | 5,000 | | 8,000 | | 7,000 | | 6,000 | 26,000 |
|  | Units of raw materials needed per unit of finished goods | | × 8 | | × 8 | | × 8 | | × 8 | × 8 |
|  | Units of raw materials needed to meet production | | 40,000 | | 64,000 | | 56,000 | | 48,000 | 208,000 |
|  | Add desired units of ending raw materials inventory | | 16,000 | | 14,000 | | 12,000 | | 8,000 | 8,000 |
|  | Total units of raw materials needed | | 56,000 | | 78,000 | | 68,000 | | 56,000 | 216,000 |
|  | Less units of beginning raw materials inventory | | 6,000 | | 16,000 | | 14,000 | | 12,000 | 6,000 |
|  | Units of raw materials to be purchased | | 50,000 | | 62,000 | | 54,000 | | 44,000 | 210,000 |
|  | Unit cost of raw materials | | × $1.20 | | × $1.20 | | × $1.20 | | × $1.20 | × $1.20 |
|  | Cost of raw materials to be  purchased | | $60,000 | | $74,400 | | $64,800 | | $52,800 | $252,000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Exercise 8-16** (continued) |  |  |  |  |  |
|  | Schedule of Expected Cash Disbursements for Materials | | | | | |
|  | Beginning accounts payable | $ 2,880 |  |  |  | $   2,880 |
|  | 1st Quarter purchases | 36,000 | $24,000 |  |  | 60,000 |
|  | 2nd Quarter purchases |  | 44,640 | $29,760 |  | 74,400 |
|  | 3rd Quarter purchases |  |  | 38,880 | $25,920 | 64,800 |
|  | 4th Quarter purchases |  |  |  | 31,680 | 31,680 |
|  | Total cash disbursements for materials | $38,880 | $68,640 | $68,640 | $57,600 | $233,760 |
| 2. 1. | Zan Corporation  Direct Labor Budget | | | | | |
|  |  |  |  |  |  |  |
|  |  | *1st Quarter* | *2nd Quarter* | *3rd Quarter* | *4th Quarter* | *Year* |
|  | Required production in units | 5,000 | 8,000 | 7,000 | 6,000 | 26,000 |
|  | Direct labor-hours per unit | × 0.20 | × 0.20 | × 0.20 | × 0.20 | × 0.20 |
|  | Total direct labor-hours needed | 1,000 | 1,600 | 1,400 | 1,200 | 5,200 |
|  | Direct labor cost per hour | × $11.50 | × $11.50 | × $11.50 | × $11.50 | × $11.50 |
|  | Total direct labor cost | $ 11,500 | $ 18,400 | $ 16,100 | $ 13,800 | $ 59,800 |

**Problem 8-17** (45 minutes)

1. Schedule of cash receipts:

|  |  |
| --- | --- |
| Cash sales—May | $ 60,000 |
| Collections on account receivable: |  |
| April 30 balance | 54,000 |
| May sales (50% × $140,000) | 70,000 |
| Total cash receipts | $184,000 |
|  |  |
| Schedule of cash payments for purchases: |  |
| April 30 accounts payable balance | $ 63,000 |
| May purchases (40% × $120,000) | 48,000 |
| Total cash payments | $111,000 |

|  |  |
| --- | --- |
| Minden Company | |
| Cash Budget | |
| For the Month of May | |
| Beginning cash balance | $   9,000 |
| Add collections from customers (above) | 184,000 |
| Total cash available | 193,000 |
| Less cash disbursements: |  |
| Purchase of inventory (above) | 111,000 |
| Selling and administrative expenses | 72,000 |
| Purchases of equipment | 6,500 |
| Total cash disbursements | 189,500 |
| Excess of cash available over disbursements | 3,500 |
| Financing: |  |
| Borrowing—note | 20,000 |
| Repayments—note | (14,500) |
| Interest | (100) |
| Total financing | 5,400 |
| Ending cash balance | $   8,900 |

**Problem 8-17** (continued)

2.

|  |  |  |
| --- | --- | --- |
| Minden Company | | |
| Budgeted Income Statement | | |
| For the Month of May | | |
| Sales |  | $200,000 |
| Cost of goods sold: |  |  |
| Beginning inventory | $ 30,000 |  |
| Add purchases | 120,000 |  |
| Goods available for sale | 150,000 |  |
| Ending inventory | 40,000 |  |
| Cost of goods sold |  | 110,000 |
| Gross margin |  | 90,000 |
| Selling and administrative expenses ($72,000 + $2,000) |  | 74,000 |
| Net operating income |  | 16,000 |
| Interest expense |  | 100 |
| Net income |  | $ 15,900 |

3.

|  |  |
| --- | --- |
| Minden Company | |
| Budgeted Balance Sheet | |
| May 31 | |
|  | |
| Assets | |
| Cash | $   8,900 |
| Accounts receivable (50% × $140,000) | 70,000 |
| Inventory | 40,000 |
| Buildings and equipment, net of depreciation ($207,000 + $6,500 – $2,000) | 211,500 |
| Total assets | $330,400 |
|  |  |
| Liabilities and Stockholders’ Equity | |
| Accounts payable (60% × 120,000) | $ 72,000 |
| Note payable | 20,000 |
| Common stock | 180,000 |
| Retained earnings ($42,500 + $15,900) | 58,400 |
| Total liabilities and stockholders’ equity | $330,400 |

**Problem 8-18** (45 minutes)

1. Schedule of cash receipts:

|  |  |
| --- | --- |
| Cash sales—May | $ 60,000 |
| Collections on account receivable: |  |
| April 30 balance | 54,000 |
| May sales (60% × $160,000) | 96,000 |
| Total cash receipts | $210,000 |
|  |  |
| Schedule of cash payments for purchases: |  |
| April 30 accounts payable balance | $ 63,000 |
| May purchases (50% × $120,000) | 60,000 |
| Total cash payments | $123,000 |

|  |  |
| --- | --- |
| Minden Company | |
| Cash Budget | |
| For the Month of May | |
| Beginning cash balance | $   9,000 |
| Add collections from customers (above) | 210,000 |
| Total cash available | 219,000 |
| Less cash disbursements: |  |
| Purchase of inventory (above) | 123,000 |
| Selling and administrative expenses | 72,000 |
| Purchases of equipment | 6,500 |
| Total cash disbursements | 201,500 |
| Excess of cash available over disbursements | 17,500 |
| Financing: |  |
| Borrowing—note | 20,000 |
| Repayments—note | (14,500) |
| Interest | (100) |
| Total financing | 5,400 |
| Ending cash balance | $   22,900 |

**Problem 8-18** (continued)

2.

|  |  |  |
| --- | --- | --- |
| Minden Company | | |
| Budgeted Income Statement | | |
| For the Month of May | | |
| Sales |  | $220,000 |
| Cost of goods sold: |  |  |
| Beginning inventory | $ 30,000 |  |
| Add purchases | 120,000 |  |
| Goods available for sale | 150,000 |  |
| Ending inventory | 40,000 |  |
| Cost of goods sold |  | 110,000 |
| Gross margin |  | 110,000 |
| Selling and administrative expenses ($72,000 + $2,000) |  | 74,000 |
| Net operating income |  | 36,000 |
| Interest expense |  | 100 |
| Net income |  | $ 35,900 |

3.

|  |  |
| --- | --- |
| Minden Company | |
| Budgeted Balance Sheet | |
| May 31 | |
|  | |
| Assets | |
| Cash | $   22,900 |
| Accounts receivable (40% × $160,000) | 64,000 |
| Inventory | 40,000 |
| Buildings and equipment, net of depreciation ($207,000 + $6,500 – $2,000) | 211,500 |
| Total assets | $338,400 |
|  |  |
| Liabilities and Stockholders’ Equity | |
| Accounts payable (50% × 120,000) | $ 60,000 |
| Note payable | 20,000 |
| Capital stock | 180,000 |
| Retained earnings ($42,500 + $35,900) | 78,400 |
| Total liabilities and stockholders’ equity | $338,400 |

**Problem 8-19** (30 minutes)

|  |  |  |
| --- | --- | --- |
| 1. | December cash sales | $ 83,000 |
|  | Collections on account: |  |
|  | October sales: $400,000 × 18% | 72,000 |
|  | November sales: $525,000 × 60% | 315,000 |
|  | December sales: $600,000 × 20% | 120,000 |
|  | Total cash collections | $590,000 |
|  |  |  |
| 2. | Payments to suppliers: |  |
|  | November purchases (accounts payable) | $161,000 |
|  | December purchases: $280,000 × 30% | 84,000 |
|  | Total cash payments | $245,000 |

|  |  |  |  |
| --- | --- | --- | --- |
| 3. | Ashton Company  Cash Budget  For the Month of December | | |
|  |  |  |  |
|  | Beginning cash balance |  | $ 40,000 |
|  | Add collections from customers |  | 590,000 |
|  | Total cash available |  | 630,000 |
|  | Less cash disbursements: |  |  |
|  | Payments to suppliers for inventory | $245,000 |  |
|  | Selling and administrative expenses\* | 380,000 |  |
|  | New web server | 76,000 |  |
|  | Dividends paid | 9,000 |  |
|  | Total cash disbursements |  | 710,000 |
|  | Excess (deficiency) of cash available over disbursements |  | (80,000) |
|  | Financing: |  |  |
|  | Borrowings |  | 100,000 |
|  | Repayments |  | 0 |
|  | Interest |  | 0 |
|  | Total financing |  | 100,000 |
|  | Ending cash balance |  | $ 20,000 |

\*$430,000 – $50,000 = $380,000.

**Problem 8-20** (30 minutes)

1. The budget at Springfield is an imposed “top-down” budget that fails to consider both the need for realistic data and the human interaction essential to an effective budgeting/control process. The President has not given any basis for his goals, so one cannot know whether they are realistic for the company. True participation of company employees in preparation of the budget is minimal and limited to mechanical gathering and manipulation of data. This suggests there will be little enthusiasm for implementing the budget.

The sales by product line should be based on an accurate sales forecast of the potential market. Therefore, the sales by product line should have been developed first to derive the sales target rather than the reverse.

The initial meeting between the Vice President of Finance, Executive Vice President, Marketing Manager, and Production Manager should have been held earlier. This meeting was held too late in the budget process.

2. Springfield should consider adopting a “bottom-up” budget process. This means that the people responsible for performance under the budget would participate in the decisions by which the budget is established. In addition, this approach requires initial and continuing involvement of sales, financial, and production personnel to define sales and profit goals that are realistic within the constraints under which the company operates. Although time consuming, the approach should produce a more acceptable, honest, and workable goal-control mechanism.

The sales forecast should be developed considering internal sales-forecasts as well as external factors. Costs within departments should be divided into fixed and variable, controllable and noncontrollable, discretionary and nondiscretionary. Flexible budgeting techniques could then allow departments to identify costs that can be modified in the planning process.

**Problem 8-20** (continued)

3. The functional areas should not necessarily be expected to cut costs when sales volume falls below budget. The time frame of the budget (one year) is short enough so that many costs are relatively fixed. For costs that are fixed, there is little hope for a reduction as a consequence of short-run changes in volume. However, the functional areas should be expected to cut costs should sales volume fall below target when:

a. control is exercised over the costs within their function.

b. budgeted costs were more than adequate for the originally targeted sales, i.e., slack was present.

c. budgeted costs vary to some extent with changes in sales.

d. there are discretionary costs that can be delayed or omitted with no serious effect on the department.

(Adapted unofficial CMA Solution)

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

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | April | May | June |  | Quarter |
|  | From accounts receivable | $120,000 | $  16,000 |  |  | $136,000 |
|  | From April sales: |  |  |  |  |  |
|  | 30% × $300,000 | 90,000 |  |  |  | 90,000 |
|  | 60% × $300,000 |  | 180,000 |  |  | 180,000 |
|  | 8% × $300,000 |  |  | $ 24,000 |  | 24,000 |
|  | From May sales: |  |  |  |  |  |
|  | 30% × $400,000 |  | 120,000 |  |  | 120,000 |
|  | 60% × $400,000 |  |  | 240,000 |  | 240,000 |
|  | From June sales: |  |  |  |  |  |
|  | 30% × $250,000 |  |  | 75,000 |  | 75,000 |
|  | Total cash collections | $210,000 | $316,000 | $339,000 |  | $865,000 |

**Problem 8-21** (continued)

2. Cash budget:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |  |
|  |  | April | May | June |  | Quarter |
|  | Beginning cash balance | $ 24,000 | $ 22,000 | $ 26,000 |  | $ 24,000 |
|  | Add receipts: |  |  |  |  |  |
|  | Collections from customers | 210,000 | 316,000 | 339,000 |  | 865,000 |
|  | Total cash available | 234,000 | 338,000 | 365,000 |  | 889,000 |
|  | Less cash disbursements: |  |  |  |  |  |
|  | Merchandise purchases | 140,000 | 210,000 | 160,000 |  | 510,000 |
|  | Payroll | 20,000 | 20,000 | 18,000 |  | 58,000 |
|  | Lease payments | 22,000 | 22,000 | 22,000 |  | 66,000 |
|  | Advertising | 60,000 | 60,000 | 50,000 |  | 170,000 |
|  | Equipment purchases | — | — | 65,000 |  | 65,000 |
|  | Total cash disbursements | 242,000 | 312,000 | 315,000 |  | 869,000 |
|  | Excess (deficiency) of cash available over disbursements | (8,000) | 26,000 | 50,000 |  | 20,000 |
|  | Financing: |  |  |  |  |  |
|  | Borrowings | 30,000 | — | — |  | 30,000 |
|  | Repayments | — | — | (30,000) |  | (30,000) |
|  | Interest | — | — | (1,200) |  | (1,200) |
|  | Total financing | 30,000 | — | (31,200) |  | (1,200) |
|  | Ending cash balance | $ 22,000 | $ 26,000 | $ 18,800 |  | $ 18,800 |

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 8-22** (60 minutes)

1. Collections on sales:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | April | May | June | Quarter |
|  | Cash sales | $120,000 | $180,000 | $100,000 | $   400,000 |
|  | Sales on account: |  |  |  |  |
|  | February: $200,000 × 80% × 20% | 32,000 |  |  | 32,000 |
|  | March: $300,000 × 80% × 70%, 20% | 168,000 | 48,000 |  | 216,000 |
|  | April: $600,000 × 80% × 10%, 70%, 20% | 48,000 | 336,000 | 96,000 | 480,000 |
|  | May: $900,000 × 80% × 10%, 70% |  | 72,000 | 504,000 | 576,000 |
|  | June: $500,000 × 80% × 10% |  |  | 40,000 | 40,000 |
|  | Total cash collections | $368,000 | $636,000 | $740,000 | $1,744,000 |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | July |
| Budgeted cost of goods sold | $420,000 | $630,000 | $350,000 | $280,000 |
| Add desired ending merchandise inventory\* | 126,000 | 70,000 | 56,000 |  |
| Total needs | 546,000 | 700,000 | 406,000 |  |
| Less beginning merchandise inventory | 84,000 | 126,000 | 70,000 |  |
| Required inventory purchases | $462,000 | $574,000 | $336,000 |  |

\*20% of the next month’s budgeted cost of goods sold.

b. Schedule of expected cash disbursements for merchandise purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Quarter |
| Beginning accounts payable | $126,000 |  |  | $   126,000 |
| April purchases | 231,000 | $231,000 |  | 462,000 |
| May purchases |  | 287,000 | $287,000 | 574,000 |
| June purchases |  |  | 168,000 | 168,000 |
| Total cash  disbursements | $357,000 | $518,000 | $455,000 | $1,330,000 |

**Problem 8-22** (continued)

3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Garden Sales, Inc. | | | | |
| Cash Budget | | | | |
| For the Quarter Ended June 30 | | | | |
|  |  |  |  |  |
|  | April | May | June | Quarter |
| Beginning cash balance | $ 52,000 | $ 40,000 | $  40,000 | $  52,000 |
| Add collections from customers | 368,000 | 636,000 | 740,000 | 1,744,000 |
| Total cash available | 420,000 | 676,000 | 780,000 | 1,796,000 |
| Less cash disbursements: |  |  |  |  |
| Purchases for inventory | 357,000 | 518,000 | 455,000 | 1,330,000 |
| Selling expenses | 79,000 | 120,000 | 62,000 | 261,000 |
| Administrative expenses | 25,000 | 32,000 | 21,000 | 78,000 |
| Land purchases | — | 16,000 | — | 16,000 |
| Dividends paid | 49,000 | — | — | 49,000 |
| Total cash disbursements | 510,000 | 686,000 | 538,000 | 1,734,000 |
| Excess (deficiency) of cash available over disbursements | (90,000) | (10,000) | 242,000 | 62,000 |
| Financing: |  |  |  |  |
| Borrowings | 130,000 | 50,000 | 0 | 180,000 |
| Repayments | 0 | 0 | (180,000) | (180,000) |
| Interest  ($130,000 × 1% × 3 + $50,000 × 1% × 2) | 0 | 0 | (4,900) | (4,900) |
| Total financing | 130,000 | 50,000 | (184,900) | (4,900) |
| Ending cash balance | $ 40,000 | $ 40,000 | $  57,100 | $    57,100 |

**Problem 8-23** (60 minutes)

1. Collections on sales:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | April | May | June | Quarter |
|  | Cash sales | $120,000 | $180,000 | $100,000 | $   400,000 |
|  | Sales on account: |  |  |  |  |
|  | February: $200,000 × 80% × 20% | 32,000 |  |  | 32,000 |
|  | March: $300,000 × 80% × 70%, 20% | 168,000 | 48,000 |  | 216,000 |
|  | April: $600,000 × 80% × 25%, 65%, 10% | 120,000 | 312,000 | 48,000 | 480,000 |
|  | May: $900,000 × 80% × 25%, 65% |  | 180,000 | 468,000 | 648,000 |
|  | June: $500,000 × 80% × 25% |  |  | 100,000 | 100,000 |
|  | Total cash collections | $440,000 | $720,000 | $716,000 | $1,876,000 |

2. a. Merchandise purchases budget:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | July |
| Budgeted cost of goods sold | $420,000 | $630,000 | $350,000 | $280,000 |
| Add desired ending merchandise inventory\* | 94,500 | 52,500 | 42,000 |  |
| Total needs | 514,500 | 682,500 | 392,000 |  |
| Less beginning merchandise inventory | 84,000 | 94,500 | 52,500 |  |
| Required inventory purchases | $430,500 | $588,000 | $339,500 |  |

\*15% of the next month’s budgeted cost of goods sold.

b. Schedule of expected cash disbursements for merchandise purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Quarter |
| Beginning accounts payable | $126,000 |  |  | $   126,000 |
| April purchases | 215,250 | $215,250 |  | 430,500 |
| May purchases |  | 294,000 | $294,000 | 588,000 |
| June purchases |  |  | 169,750 | 169,750 |
| Total cash  disbursements | $341,250 | $509,250 | $463,750 | $1,314,250 |

**Problem 8-23** (continued)

3.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Garden Sales, Inc. | | | | |
| Cash Budget | | | | |
| For the Quarter Ended June 30 | | | | |
|  |  |  |  |  |
|  | April | May | June | Quarter |
| Beginning cash balance | $ 52,000 | $ 40,750 | $ 83,500 | $  52,000 |
| Add collections from customers | 440,000 | 720,000 | 716,000 | 1,876,000 |
| Total cash available | 492,000 | 760,750 | 799,500 | 1,928,000 |
| Less cash disbursements: |  |  |  |  |
| Purchases for inventory | 341,250 | 509,250 | 463,750 | 1,314,250 |
| Selling expenses | 79,000 | 120,000 | 62,000 | 261,000 |
| Administrative expenses | 25,000 | 32,000 | 21,000 | 78,000 |
| Land purchases | — | 16,000 | — | 16,000 |
| Dividends paid | 49,000 | — | — | 49,000 |
| Total cash disbursements | 494,250 | 677,250 | 546,750 | 1,718,250 |
| Excess (deficiency) of cash available over disbursements | (2,250) | 83,500 | 252,750 | 209,750 |
| Financing: |  |  |  |  |
| Borrowings | 43,000 | 0 | 0 | 43,000 |
| Repayments | 0 | 0 | (43,000) | (43,000) |
| Interest  ($43,000 × 1% × 3) | 0 | 0 | (1,290) | (1,290) |
| Total financing | 43,000 | 0 | (44,290) | (1,290) |
| Ending cash balance | $ 40,750 | $ 83,500 | $ 208,460 | $  208,460 |

4. Collecting accounts receivable sooner and reducing inventory levels reduces the company’s borrowing from $180,000 to $43,000. It also reduces the company’s interest expense from $4,900 to $1,290.

**Problem 8-24** (45 minutes)

1. a. The reasons that Marge Atkins and Pete Granger use budgetary slack include the following:

• These employees are hedging against the unexpected (reducing uncertainty/risk).

• The use of budgetary slack allows employees to exceed expectations and/or show consistent performance. This is particularly important when performance is evaluated on the basis of actual results versus budget.

• Employees are able to blend personal and organizational goals through the use of budgetary slack as good performance generally leads to higher salaries, promotions, and bonuses.

b. The use of budgetary slack can adversely affect Atkins and Granger by:

• limiting the usefulness of the budget to motivate their employees to top performance.

• affecting their ability to identify trouble spots and take appropriate corrective action.

• reducing their credibility in the eyes of management.

Also, the use of budgetary slack may affect management decision-making as the budgets will show lower contribution margins (lower sales, higher expenses). Decisions regarding the profitability of product lines, staffing levels, incentives, etc., could have an adverse effect on Atkins’ and Granger’s departments.

**Problem 8-24** (continued)

2. The use of budgetary slack, particularly if it has a detrimental effect on the company, may be unethical. In assessing the situation, the specific standards contained in “Standards of Ethical Conduct for Management Accountants” that should be considered are listed below.

**Competence**

Clear reports using relevant and reliable information should be prepared.

**Confidentiality**

The standards of confidentiality do not apply in this situation.

**Integrity**

• Any activity that subverts the legitimate goals of the company should be avoided.

• Favorable as well as unfavorable information should be communicated.

**Objectivity**

• Information should be fairly and objectively communicated.

• All relevant information should be disclosed.

(Unofficial CMA Solution)

**Problem 8-25** (45 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  | |
|  |  | July | August | September | Quarter |
|  | From accounts receivable: |  |  |  |  |
|  | May sales $250,000 × 3% | $   7,500 |  |  | $      7,500 |
|  | June sales $300,000 × 70% | 210,000 |  |  | 210,000 |
|  | $300,000 × 3% |  | $   9,000 |  | 9,000 |
|  | From budgeted sales: |  |  |  |  |
|  | July sales $400,000 × 25% | 100,000 |  |  | 100,000 |
|  | $400,000 × 70% |  | 280,000 |  | 280,000 |
|  | $400,000 × 3% |  |  | $ 12,000 | 12,000 |
|  | August sales $600,000 × 25% |  | 150,000 |  | 150,000 |
|  | $600,000 × 70% |  |  | 420,000 | 420,000 |
|  | September sales $320,000 × 25% |  |  | 80,000 | 80,000 |
|  | Total cash collections | $317,500 | $439,000 | $512,000 | $1,268,500 |

**Problem 8-25** (continued)

2. Cash budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | Month | | |  |
|  |  | July | August | Septem-ber | Quarter |
|  | Beginning cash balance | $ 44,500 | $ 28,000 | $ 23,000 | $   44,500 |
|  | Add receipts: |  |  |  |  |
|  | Collections from customers | 317,500 | 439,000 | 512,000 | 1,268,500 |
|  | Total cash available | 362,000 | 467,000 | 535,000 | 1,313,000 |
|  | Less cash disbursements: |  |  |  |  |
|  | Merchandise purchases | 180,000 | 240,000 | 350,000 | 770,000 |
|  | Salaries and wages | 45,000 | 50,000 | 40,000 | 135,000 |
|  | Advertising | 130,000 | 145,000 | 80,000 | 355,000 |
|  | Rent payments | 9,000 | 9,000 | 9,000 | 27,000 |
|  | Equipment purchases | 10,000 | 0 | 0 | 10,000 |
|  | Total cash disbursements | 374,000 | 444,000 | 479,000 | 1,297,000 |
|  | Excess (deficiency) of cash available over disbursements | (12,000) | 23,000 | 56,000 | 16,000 |
|  | Financing: |  |  |  |  |
|  | Borrowings | 40,000 | 0 | 0 | 40,000 |
|  | Repayments | 0 | 0 | (40,000) | (40,000) |
|  | Interest | 0 | 0 | (1,200) | (1,200) |
|  | Total financing | 40,000 | 0 | (41,200) | (1,200) |
|  | Ending cash balance | $ 28,000 | $ 23,000 | $ 14,800 | $   14,800 |

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 $14,800 on September 30, as shown above. Some portion of the loan balance will have to be carried over to October.

**Problem 8-26** (60 minutes)

1. a. Schedule of expected cash collections:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Next Year’s Quarter | | | |  |
|  | First | Second | Third | Fourth | Total |
| Current year—Fourth quarter sales: |  |  |  |  |  |
| $200,000 × 33% | $ 66,000 |  |  |  | $   66,000 |
| Next year—First quarter sales: |  |  |  |  |  |
| $300,000 × 65% | 195,000 |  |  |  | 195,000 |
| $300,000 × 33% |  | $ 99,000 |  |  | 99,000 |
| Next year—Second quarter sales: |  |  |  |  |  |
| $400,000 × 65% |  | 260,000 |  |  | 260,000 |
| $400,000 × 33% |  |  | $132,000 |  | 132,000 |
| Next year—Third quarter sales: |  |  |  |  |  |
| $500,000 × 65% |  |  | 325,000 |  | 325,000 |
| $500,000 × 33% |  |  |  | $165,000 | 165,000 |
| Next year—Fourth quarter sales: |  |  |  |  |  |
| $200,000 × 65% |  |  |  | 130,000 | 130,000 |
| Total cash collections | $261,000 | $359,000 | $457,000 | $295,000 | $1,372,000 |

**Problem 8-26** (continued)

b. Schedule of expected cash disbursements for merchandise purchases for next year:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Quarter | | | |  |
|  | First | Second | Third | Fourth | Total |
| Current year—Fourth quarter purchases: |  |  |  |  |  |
| $126,000 × 20% | $ 25,200 |  |  |  | $ 25,200 |
| Next year—First quarter purchases: |  |  |  |  |  |
| $186,000 × 80% | 148,800 |  |  |  | 148,800 |
| $186,000 × 20% |  | $ 37,200 |  |  | 37,200 |
| Next year—Second quarter purchases: |  |  |  |  |  |
| $246,000 × 80% |  | 196,800 |  |  | 196,800 |
| $246,000 × 20% |  |  | $ 49,200 |  | 49,200 |
| Next year—Third quarter purchases: |  |  |  |  |  |
| $305,000 × 80% |  |  | 244,000 |  | 244,000 |
| $305,000 × 20% |  |  |  | $ 61,000 | 61,000 |
| Next year—Fourth quarter purchases: |  |  |  |  |  |
| $126,000 × 80% |  |  |  | 100,800 | 100,800 |
| Total cash disbursements | $174,000 | $234,000 | $293,200 | $161,800 | $863,000 |

**Problem 8-26** (continued)

2. Budgeted selling and administrative expenses for next year:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Quarter | | | | |  |
|  |  | First | Second | Third | Fourth | Year | | |
|  | Budgeted sales in dollars | $300,000 | $400,000 | $500,000 | $200,000 | $1,400,000 | | |
|  | Variable selling and administrative expense rate | × 15% | × 15% | × 15% | × 15% | × 15% | | |
|  | Variable selling and administrative expense | $45,000 | $ 60,000 | $ 75,000 | $30,000 | $210,000 | | |
|  | Fixed selling and administrative expenses | 50,000 | 50,000 | 50,000 | 50,000 | 200,000 | | |
|  | Total selling and administrative expenses | 95,000 | 110,000 | 125,000 | 80,000 | 410,000 | | |
|  | Less depreciation | 20,000 | 20,000 | 20,000 | 20,000 | 80,000 | | |
|  | Cash disbursements for selling and administrative expenses | $75,000 | $ 90,000 | $105,000 | $60,000 | $330,000 | | |

**Problem 8-26** (continued)

3. Cash budget for next year:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Quarter | | | |  | |
|  | First | Second | Third | Fourth | Year |
| Beginning cash balance | $ 10,000 | $ 12,000 | $ 10,000 | $ 10,800 | $    10,000 |
| Add collections from customers | 261,000 | 359,000 | 457,000 | 295,000 | 1,372,000 |
| Total cash available | 271,000 | 371,000 | 467,000 | 305,800 | 1,382,000 |
| Less cash disbursements: |  |  |  |  |  |
| Merchandise purchases | 174,000 | 234,000 | 293,200 | 161,800 | 863,000 |
| Selling and administrative expenses (above) | 75,000 | 90,000 | 105,000 | 60,000 | 330,000 |
| Dividends | 10,000 | 10,000 | 10,000 | 10,000 | 40,000 |
| Land | –– | 75,000 | 48,000 | –– | 123,000 |
| Total cash disbursements | 259,000 | 409,000 | 456,200 | 231,800 | 1,356,000 |
| Excess (deficiency) of cash available over disbursements | 12,000 | (38,000) | 10,800 | 74,000 | 26,000 |
| Financing: |  |  |  |  |  |
| Borrowings | 0 | 48,000 | 0 | 0 | 48,000 |
| Repayments | 0 | 0 | 0 | (48,000) | (48,000) |
| Interest  ($48,000 × 2.5% × 3) | 0 | 0 | 0 | (3,600) | (3,600) |
| Total financing | 0 | 48,000 | 0 | (51,600) | (3,600) |
| Ending cash balance | $ 12,000 | $ 10,000 | $ 10,800 | $ 22,400 | $    22,400 |

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

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | April |  | May |  | June |  | Quarter |
| Cash sales | $36,000 | \* | $43,200 |  | $54,000 |  | $133,200 |
| Credit sales1 | 20,000 | \* | 24,000 |  | 28,800 |  | 72,800 |
| Total collections | $56,000 | \* | $67,200 |  | $82,800 |  | $206,000 |

140% of the preceding month’s sales.

\* Given.

2. Merchandise purchases budget:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | April |  | May |  | June |  | Quarter | |
| Budgeted cost of goods sold1 | $45,000 | \* | $ 54,000 | \* | $67,500 |  | $166,500 | |
| Add desired ending merchandise  inventory2 | 43,200 | \* | 54,000 |  | 28,800 | \* | | 28,800 |
| Total needs | 88,200 | \* | 108,000 |  | 96,300 |  | | 195,300 |
| Less beginning merchandise inventory | 36,000 | \* | 43,200 |  | 54,000 |  | | 36,000 |
| Required purchases | $52,200 | \* | $ 64,800 |  | $42,300 |  | | $159,300 |

1For April sales: $60,000 sales × 75% cost ratio = $45,000.

2At April 30: $54,000 × 80% = $43,200.

At June 30: July sales $48,000 × 75% cost ratio × 80% = $28,800.

\* Given.

Schedule of expected cash disbursements—merchandise purchases

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | April |  | May |  | June |  | Quarter |  |
| March purchases | $21,750 | \* |  |  |  |  | $ 21,750 | \* |
| April purchases | 26,100 | \* | $26,100 | \* |  |  | 52,200 | \* |
| May purchases |  |  | 32,400 |  | $32,400 |  | 64,800 |  |
| June purchases |  |  |  |  | 21,150 |  | 21,150 |  |
| Total disbursements | $47,850 | \* | $58,500 |  | $53,550 |  | $159,900 |  |

\* Given.

**Problem 8-27** (continued)

3. Cash budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | April |  | May | June | Quarter |
| Beginning cash balance | $ 8,000 | \* | $ 4,350 | $ 4,590 | $  8,000 |
| Add collections from customers | 56,000 | \* | 67,200 | 82,800 | 206,000 |
| Total cash available | 64,000 | \* | 71,550 | 87,390 | 214,000 |
| Less cash disbursements: |  |  |  |  |  |
| For inventory | 47,850 | \* | 58,500 | 53,550 | 159,900 |
| For expenses | 13,300 | \* | 15,460 | 18,700 | 47,460 |
| For equipment | 1,500 | \* | 0 | 0 | 1,500 |
| Total cash disbursements | 62,650 | \* | 73,960 | 72,250 | 208,860 |
| Excess (deficiency) of cash available over disbursements | 1,350 | \* | (2,410) | 15,140 | 5,140 |
| Financing: |  |  |  |  |  |
| Borrowings | 3,000 |  | 7,000 | 0 | 10,000 |
| Repayments | 0 |  | 0 | (10,000) | (10,000) |
| Interest ($3,000 × 1% × 3 + $7,000 × 1% × 2) | 0 |  | 0 | (230) | (230) |
| Total financing | 3,000 |  | 7,000 | (10,230) | (230) |
| Ending cash balance | $ 4,350 |  | $ 4,590 | $ 4,910 | $  4,910 |

\* Given.

**Problem 8-27** (continued)

4.

|  |  |  |  |
| --- | --- | --- | --- |
| Shilow Company | | | |
| Income Statement | | | |
| For the Quarter Ended June 30 | | | |
| Sales ($60,000 + $72,000 + $90,000) |  | $222,000 |  |
| Cost of goods sold: |  |  |  |
| Beginning inventory (Given) | $ 36,000 |  |  |
| Add purchases (Part 2) | 159,300 |  |  |
| Goods available for sale | 195,300 |  |  |
| Ending inventory (Part 2) | 28,800 | 166,500 | \* |
| Gross margin |  | 55,500 |  |
| Selling and administrative expenses: |  |  |  |
| Commissions (12% of sales) | 26,640 |  |  |
| Rent ($2,500 × 3) | 7,500 |  |  |
| Depreciation ($900 × 3) | 2,700 |  |  |
| Other expenses (6% of sales) | 13,320 | 50,160 |  |
| Net operating income |  | 5,340 |  |
| Interest expense (Part 4) |  | 230 |  |
| Net income |  | $   5,110 |  |

\* A simpler computation would be: $222,000 × 75% = $166,500.

**Problem 8-27** (continued)

5.

|  |  |
| --- | --- |
| Shilow Company | |
| Balance Sheet | |
| June 30 | |
|  | |
| *Assets* | |
| Current assets: |  |
| Cash (Part 4) | $   4,910 |
| Accounts receivable ($90,000 × 40%) | 36,000 |
| Inventory (Part 2) | 28,800 |
| Total current assets | 69,710 |
| Building and equipment—net  ($120,000 + $1,500 – $2,700) | 118,800 |
| Total assets | $188,510 |

|  |  |  |  |
| --- | --- | --- | --- |
| Liabilities and Stockholders’ Equity | | | |
|  |  |  |  |
| Accounts payable (Part 2: $42,300 × 50%) |  |  | $  21,150 |
| Stockholders’ equity: |  |  |  |
| Common stock (Given) | $150,000 |  |  |
| Retained earnings\* | 17,360 |  | 167,360 |
| Total liabilities and stockholders’ equity |  |  | $188,510 |

|  |  |  |
| --- | --- | --- |
| \* | Beginning retained earnings | $12,250 |
|  | Add net income | 5,110 |
|  | Ending retained earnings | $17,360 |

**Problem 8-28** (60 minutes)

1. The sales budget for the third quarter:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Month | | |  |
|  | July | August | September | Quarter |
| Budgeted units sales | 30,000 | 70,000 | 50,000 | 150,000 |
| Selling price per unit | × $12 | × $12 | × $12 | × $12 |
| Budgeted sales | $360,000 | $840,000 | $600,000 | $1,800,000 |

The schedule of expected cash collections from sales:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Accounts receivable, June 30:  $300,000 × 65% | $195,000 |  |  | $  195,000 |
| July sales:  $360,000 × 30%, 65% | 108,000 | $234,000 |  | 342,000 |
| August sales:  $840,000 × 30%, 65% |  | 252,000 | $546,000 | 798,000 |
| September sales:  $600,000 × 30% |  |  | 180,000 | 180,000 |
| Total cash collections | $303,000 | $486,000 | $726,000 | $1,515,000 |

2. The production budget for July-October:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | September | October |
| Budgeted unit sales | 30,000 | 70,000 | 50,000 | 20,000 |
| Add desired units of ending finished goods inventory | 10,500 | 7,500 | 3,000 | 1,500 |
| Total needs | 40,500 | 77,500 | 53,000 | 21,500 |
| Less units of beginning finished goods inventory | 4,500 | 10,500 | 7,500 | 3,000 |
| Required production in units | 36,000 | 67,000 | 45,500 | 18,500 |

**Problem 8-28** (continued)

3. The direct materials budget for the third quarter:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | July | August | September | Quarter |
| Required production in units of finished goods |  | 36,000 | 67,000 | 45,500 | 148,500 |
| Units of raw materials needed per unit of finished goods |  | × 4 | × 4 | × 4 | × 4 |
| Units of raw materials needed to meet production |  | 144,000 | 268,000 | 182,000 | 594,000 |
| Add desired units of ending raw materials inventory |  | 134,000 | 91,000 | 37,000 | 37,000 |
| Total units of raw materials needed |  | 278,000 | 359,000 | 219,000 | 631,000 |
| Less units of beginning raw materials inventory |  | 72,000 | 134,000 | 91,000 | 72,000 |
| Units of raw materials to be purchased |  | 206,000 | 225,000 | 128,000 | 559,000 |
| Unit cost of raw materials |  | × $0.80 | × $0.80 | × $0.80 | × $0.80 |
| Cost of raw materials to be purchased |  | $164,800 | $180,000 | $102,400 | $447,200 |

\*18,500 units (October) × 4 feet per unit = 74,000 feet  
 74,000 feet × ½ = 37,000 feet

**Problem 8-28** (continued)

3. The schedule of expected cash disbursements for materials purchases:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | July | August | September | Quarter |
| Accounts payable,  June 30 | $ 76,000 |  |  | $ 76,000 |
| July purchases:  $164,800 × 50%, 50% | 82,400 | $ 82,400 |  | 164,800 |
| August purchases: $180,000 × 50%, 50% |  | 90,000 | $ 90,000 | 180,000 |
| September purchases: $102,400 × 50% |  |  | 51,200 | 51,200 |
| Total cash disbursements | $158,400 | $172,400 | $141,200 | $472,000 |

**Problem 8-29** (120 minutes)

1. Schedule of expected cash collections:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | January |  | February |  | March |  | Quarter |
| Cash sales | $ 80,000 | \* | $120,000 |  | $ 60,000 |  | $  260,000 |
| Credit sales | 224,000 | \* | 320,000 |  | 480,000 |  | 1,024,000 |
| Total cash collections | $304,000 | \* | $440,000 |  | $540,000 |  | $1,284,000 |

\* Given.

2. a. Merchandise purchases budget:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | January |  | February |  | March |  | Quarter | |
| Budgeted cost of goods sold1 | | $240,000 | \* | $360,000 | \* | $180,000 |  | $780,000 | |
| Add desired ending merchandise inventory2 | | 90,000 | \* | 45,000 |  | 30,000 |  | | 30,000 |
| Total needs | | 330,000 | \* | 405,000 |  | 210,000 |  | | 810,000 |
| Less beginning merchandise  inventory | | 60,000 | \* | 90,000 |  | 45,000 |  | | 60,000 |
| Required purchases | | $270,000 | \* | $315,000 |  | $165,000 |  | | $750,000 |

|  |  |
| --- | --- |
|  | 1For January sales: $400,000 × 60% cost ratio = $240,000. |
|  | 2At January 31: $360,000 × 25% = $90,000. At March 31: $200,000 April sales × 60% cost ratio × 25% = $30,000. |
|  | \* Given. |

b. Schedule of expected cash disbursements for merchandise purchases:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | January |  | February |  | March |  | Quarter |  |
|  | December  purchases | $ 93,000 | \* |  |  |  |  | $ 93,000 | \* |
|  | January purchases | 135,000 | \* | $135,000 | \* |  |  | 270,000 | \* |
|  | February purchases |  |  | 157,500 |  | $157,500 |  | 315,000 |  |
|  | March purchases |  |  |  |  | 82,500 |  | 82,500 |  |
|  | Total cash  disbursements for purchases | $228,000 | \* | $292,500 |  | $240,000 |  | $760,500 |  |

\* Given.

**Problem 8-29** (continued)

3. Cash budget:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | January |  | February | March | Quarter |
| Beginning cash balance | $ 48,000 | \* | $ 30,000 | $ 30,800 | $    48,000 |
| Add collections from customers | 304,000 | \* | 440,000 | 540,000 | 1,284,000 |
| Total cash available | 352,000 | \* | 470,000 | 570,800 | 1,332,000 |
| Less cash disbursements: |  |  |  |  |  |
| Inventory purchases | 228,000 | \* | 292,500 | 240,000 | 760,500 |
| Selling and administrative expenses | 129,000 | \* | 145,000 | 121,000 | 395,000 |
| Equipment purchases | 0 |  | 1,700 | 84,500 | 86,200 |
| Cash dividends | 45,000 | \* | 0 | 0 | 45,000 |
| Total cash disbursements | 402,000 | \* | 439,200 | 445,500 | 1,286,700 |
| Excess (deficiency) of cash available over disbursements | (50,000) | \* | 30,800 | 125,300 | 45,300 |
| Financing: |  |  |  |  |  |
| Borrowings | 80,000 |  | 0 | 0 | 80,000 |
| Repayments | 0 |  | 0 | (80,000) | (80,000) |
| Interest  ($80,000 × 1% × 3) | 0 |  | 0 | (2,400) | (2,400) |
| Total financing | 80,000 |  | 0 | (82,400) | (2,400) |
| Ending cash balance | $ 30,000 |  | $ 30,800 | $ 42,900 | $    42,900 |

\* Given.

**Problem 8-29** (continued)

4. Income statement:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hillyard Company | | | | |
| Income Statement | | | | |
| For the Quarter Ended March 31 | | | | |
| Sales |  | $1,300,000 |  | |
| Cost of goods sold: |  |  |  | |
| Beginning inventory (Given) | $ 60,000 |  |  | |
| Add purchases (Part 2) | 750,000 |  |  |
| Goods available for sale | 810,000 |  |  |
| Ending inventory (Part 2) | 30,000 | 780,000 | \* |
| Gross margin |  | 520,000 |  |
| Selling and administrative expenses: |  |  |  |
| Salaries and wages ($27,000 × 3) | 81,000 |  |  |
| Advertising ($70,000 × 3)) | 210,000 |  |  |
| Shipping (5% of sales) | 65,000 |  |  |
| Depreciation (given) | 42,000 |  |  |
| Other expenses (3% of sales) | 39,000 | 437,000 |  |
| Net operating income |  | 83,000 |  |
| Interest expense (Part 4) |  | 2,400 |  |
| Net income |  | $    80,600 |  |

\* A simpler computation would be: $1,300,000 x 60% = $780,000.

**Problem 8-29** (continued)

5. Balance sheet:

|  |  |
| --- | --- |
| Hillyard Company | |
| Balance Sheet | |
| March 31 | |
|  | |
| *Assets* | |
| Current assets: |  |
| Cash (Part 4) | $ 42,900 |
| Accounts receivable (80% × $300,000) | 240,000 |
| Inventory (Part 2) | 30,000 |
| Total current assets | 312,900 |
| Buildings and equipment, net  ($370,000 + $86,200 – $42,000) | 414,200 |
| Total assets | $727,100 |

|  |  |  |  |
| --- | --- | --- | --- |
| *Liabilities and Stockholders’ Equity* | | | |
| Current liabilities: |  |  |
| Accounts payable (Part 2: 50% × $165,000) |  | $ 82,500 |
| Stockholders’ equity: |  |  |
| Common stock | $500,000 |  |
| Retained earnings\* | 144,600 | 644,600 |
| Total liabilities and stockholders’ equity |  | $727,100 |

|  |  |  |
| --- | --- | --- |
| \* | Beginning retained earnings | $109,000 |
|  | Add net income | 80,600 |
|  | Total | 189,600 |
|  | Deduct cash dividends | 45,000 |
|  | Ending retained earnings | $144,600 |

**Case 8-30** (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 8-31** (120 minutes)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | a. | Sales budget: |  |  | | |  |  |
|  |  |  | April | May | | | June | Quarter |
|  |  | Budgeted unit sales | 65,000 | 100,000 | | | 50,000 | 215,000 |
|  |  | Selling price per unit | × $10 | × $10 | | | × $10 | × $10 |
|  |  | Total sales | $650,000 | $1,000,000 | | | $500,000 | $2,150,000 |
|  |  |  | | | |  | |  |
|  | b. | Schedule of expected cash collections: | | | |  | |  |
|  |  | February sales (10%) | $ 26,000 |  |  | | | $    26,000 |
|  |  | March sales  (70%, 10%) | 280,000 | $ 40,000 |  | | | 320,000 |
|  |  | April sales  (20%, 70%, 10%) | 130,000 | 455,000 | $ 65,000 | | | 650,000 |
|  |  | May sales  (20%, 70%) |  | 200,000 | 700,000 | | | 900,000 |
|  |  | June sales (20%) |  |  | 100,000 | | | 100,000 |
|  |  | Total cash collections | $436,000 | $695,000 | $865,000 | | | $1,996,000 |
|  |  |  |  |  |  | | |  |
|  | c. | Merchandise purchases budget: | | | |  | |  |
|  |  | Budgeted unit sales | 65,000 | 100,000 | 50,000 | | | 215,000 |
|  |  | Add desired ending merchandise inventory | 40,000 | 20,000 | 12,000 | | | 12,000 |
|  |  | Total needs | 105,000 | 120,000 | 62,000 | | | 227,000 |
|  |  | Less beginning merchandise inventory | 26,000 | 40,000 | 20,000 | | | 26,000 |
|  |  | Required purchases | 79,000 | 80,000 | 42,000 | | | 201,000 |
|  |  | Cost of purchases at $4 per unit | $316,000 | $320,000 | $168,000 | | | $  804,000 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | d. | Budgeted cash disbursements for merchandise purchases: | | | | |
|  |  |  |  |  |  |  | |
|  |  | Accounts payable | $100,000 |  |  | $  100,000 | |
|  |  | April purchases | 158,000 | $158,000 |  | 316,000 | |
|  |  | May purchases |  | 160,000 | $160,000 | 320,000 | |
|  |  | June purchases |  |  | 84,000 | 84,000 | |
|  |  | Total cash payments | $258,000 | $318,000 | $244,000 | $  820,000 | |

**Case 8-31** (continued)

|  |  |
| --- | --- |
| 2. | Earrings Unlimited |
|  | Cash Budget |
|  | For the Three Months Ending June 30 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | April | May | June | Quarter |
| Beginning cash balance | $ 74,000 | $ 50,000 | $ 50,000 | $   74,000 |
| Add collections from customers | 436,000 | 695,000 | 865,000 | 1,996,000 |
| Total cash available | 510,000 | 745,000 | 915,000 | 2,070,000 |
| Less cash disbursements: |  |  |  |  |
| Merchandise purchases | 258,000 | 318,000 | 244,000 | 820,000 |
| Advertising | 200,000 | 200,000 | 200,000 | 600,000 |
| Rent | 18,000 | 18,000 | 18,000 | 54,000 |
| Salaries | 106,000 | 106,000 | 106,000 | 318,000 |
| Commissions (4% of sales) | 26,000 | 40,000 | 20,000 | 86,000 |
| Utilities | 7,000 | 7,000 | 7,000 | 21,000 |
| Equipment purchases | 0 | 16,000 | 40,000 | 56,000 |
| Dividends paid | 15,000 | 0 | 0 | 15,000 |
| Total cash disbursements | 630,000 | 705,000 | 635,000 | 1,970,000 |
| Excess (deficiency) of cash available over disbursements | (120,000) | 40,000 | 280,000 | 100,000 |
| Financing: |  |  |  |  |
| Borrowings | 170,000 | 10,000 | 0 | 180,000 |
| Repayments | 0 | 0 | (180,000) | (180,000) |
| Interest  ($170,000 × 1% × 3 + $10,000 × 1% × 2) | 0 | 0 | (5,300) | (5,300) |
| Total financing | 170,000 | 10,000 | (185,300) | (5,300) |
| Ending cash balance | $ 50,000 | $ 50,000 | $ 94,700 | $   94,700 |

**Case 8-31** (continued)

|  |  |
| --- | --- |
| 3. | Earrings Unlimited |
|  | Budgeted Income Statement |
|  | For the Three Months Ended June 30 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Sales (Part 1 a.) |  | $2,150,000 |
|  | Variable expenses: |  |  |
|  | Cost of goods sold @ $4 per unit | $860,000 |  |
|  | Commissions @ 4% of sales | 86,000 | 946,000 |
|  | Contribution margin |  | 1,204,000 |
|  | Fixed expenses: |  |  |
|  | Advertising ($200,000 × 3) | 600,000 |  |
|  | Rent ($18,000 × 3) | 54,000 |  |
|  | Salaries ($106,000 × 3) | 318,000 |  |
|  | Utilities ($7,000 × 3) | 21,000 |  |
|  | Insurance ($3,000 × 3) | 9,000 |  |
|  | Depreciation ($14,000 × 3) | 42,000 | 1,044,000 |
|  | Net operating income |  | 160,000 |
|  | Interest expense (Part 2) |  | 5,300 |
|  | Net income |  | $  154,700 |

**Case 8-31** (continued)

|  |  |
| --- | --- |
| 4. | Earrings Unlimited |
|  | Budgeted Balance Sheet |
|  | June 30 |

|  |  |  |
| --- | --- | --- |
|  | Assets |  |
|  | Cash | $    94,700 |
|  | Accounts receivable (see below) | 500,000 |
|  | Inventory (12,000 units @ $4 per unit) | 48,000 |
|  | Prepaid insurance ($21,000 – $9,000) | 12,000 |
|  | Property and equipment, net  ($950,000 + $56,000 – $42,000) | 964,000 |
|  | Total assets | $1,618,700 |
|  |  |  |
|  | Liabilities and Stockholders’ Equity |  |
|  | Accounts payable, purchases (50% × $168,000) | $     84,000 |
|  | Dividends payable | 15,000 |
|  | Common stock | 800,000 |
|  | Retained earnings (see below) | 719,700 |
|  | Total liabilities and stockholders’ equity | $1,618,700 |

|  |  |  |
| --- | --- | --- |
|  | Accounts receivable at June 30: |  |
|  | 10% × May sales of $1,000,000 | $100,000 |
|  | 80% × June sales of $500,000 | 400,000 |
|  | Total | $500,000 |
|  |  |  |
|  | Retained earnings at June 30: |  |
|  | Balance, March 31 | $580,000 |
|  | Add net income (part 3) | 154,700 |
|  | Total | 734,700 |
|  | Less dividends declared | 15,000 |
|  | Balance, June 30 | $719,700 |