# CHAPTER 1

## QUESTIONS

**1.** The function of cost accounting is to provide the cost accounting information that is the basis for planning and controlling current and future operations. It provides the cost figures and analyses that management needs in order to find the most efficient methods of operating, achieving control of costs, and determining selling prices.

**2.** Originally issued for companies marketing products in Europe, a set of international standards for quality management, known as ISO 9000 was designed by the International Organization for Standardization. Obtaining ISO 9000 certification is important because many companies will only contract with ISO 9000 suppliers.

**3.** The ISO 14000 family of standards addresses various aspects of environmental management. It is based upon the premise that environmental benefits, such as reduced consumption of resources and energy, recycling and reduced waste may also result in economic benefits for the companies that implement it.

**4.** Reasons given by U.S. companies for “reshoring” their manufacturing operations include (1) rising Chinese wages and labor unrest, (2) higher energy and shipping costs, (3) the desire to bring production managers and assembly-line workers closer to engineers, suppliers, and customers, (4) an effort to protect a company’s intellectual property, (5) increased productivity in the United States, and (6) less favorable foreign exchange rates.

**5.** Manufacturers convert purchased materials into finished goods by using labor, technology, and facilities. Merchandisers purchase completed products for resale. Service businesses or agencies sell or provide services rather than products.

**6.** A manufacturer differs from a merchandiser in these ways:

**a.** The merchandiser buys items to sell while the manufacturing business must make the items it markets.

**b.** Usually the manufacturer has a greater investment in physical facilities.

**c.** The manufacturer will incur some costs peculiar to this type of industry, such as machine maintenance, materials handling, and inspection of manufactured goods.

The two types of operations are similar in that they are both concerned with purchasing, storing, and selling goods; they must have efficient management and adequate sources of capital; and they may employ many workers.

**7.** Cost accounting information is used by management in the following ways:

**a.** Determining product costs which are necessary for: determining cost of goods sold and valuing inventories; determining product selling price; meeting competition; bidding on contracts; and analyzing profitability.

**b.** Planning by providing historical costs that serve as a basis for projecting data.

**c.** Controlling operations by providing cost data that enable management to periodically measure results, to take corrective action where necessary, and to search for ways to reduce costs.

**8.** Unit cost information is important to management because the unit costs of one period can be compared with those of other periods, and significant trends can be identified and analyzed. Unit costs are also used in making important marketing decisions related to selling prices, competition, and bidding.

**9.** For a manufacturer, the planning process involves the selection of clearly defined objectives of the manufacturing operation and the development of a detailed plan to guide the organization in reaching the objectives. Cost accounting provides historical cost information that is used as the basis for planning future operations.

**10.** In a manufacturing concern, effective control is achieved in the following ways:

**a.** Responsibility must be assigned for each detail of the master production plan.

**b.** There must be a periodic measurement of the actual results as compared with predetermined objectives.

**c.** Management must take corrective action as necessary to improve or eliminate inefficient and unprofitable operations.

**11.** Responsibility accounting is the assigning of accountability for costs or production results to those individuals who have the authority to influence costs or production. It involves and information system that traces these data to the managers who are responsible for them.

**12.** The criteria for a cost center are:

**a.** A reasonable basis on which manufacturing costs can be allocated.

**b.** A person who has control over and is accountable for many of the costs

**13.** The requirements for becoming a CMA include a four-year college degree, two years of relevant work experience, and passing a rigorous two-part examination.

**14.** The four major categories of ethical conduct that must be adhered to by management accountants include competence, confidentiality, integrity, and credibility.

**15.** The steps that should be taken by the management accountant include:

1. Discuss the problem with the immediate supervisor except when it appears that the supervisor is involved, in which case it should be taken to the next higher management level.

**b.** Clarify relevant ethical issues by confidential discussion with an objective advisor.

**c.** Consult your own attorney as to legal obligations and rights.

**16.** Corporate governance is the means by which a company is directed and controlled. Good corporate governance is important to all stakeholders because, due to recent accounting scandals, the need for ethical conduct in managing corporate affairs has never been greater.

**17.** The recent accounting scandals where management, including controllers and chief financial officers, has “cooked the books” to make reported financial results seem better than actual created the need for the Sarbanes-Oxley Act. To help curb future abuses, the act provides oversight to the public accounting profession and establishes guidelines for publicly traded companies in managing their relationships with their independent accountants.

**18.** The Sarbanes Oxley Act impacts a company’s management in the following ways: certification by the CEO and CFO that the financial statements fairly reflect the results of operations; requiring that a company’s annual report contain management’s opinion on the effectiveness of its internal controls; and increased criminal penalties for the violation of securities laws.

**19.** Financial accounting focuses upon financial statements which meet the decision-making needs of external parties, such as investors, creditors, and governmental agencies, and to some extent the needs of management. Management accounting focuses on both historical and estimated data that management needs to conduct ongoing business operations and do long-range planning. Cost accounting includes those parts of both financial and management accounting that  
collects and analyzes cost information. It provides the product cost data required for special reports to management (management accounting) and for inventory costing in the financial statements (financial accounting).

**20.** With regard to methods for computing the cost of goods sold, the difference between a manufacturer and a merchandiser is in the determination of the cost of goods available for sale. Since the manufacturing business makes the products it has available for sale, the cost of goods manufactured must be determined and added to beginning finished goods inventory to determine the cost of finished goods available for sale. Since the merchandiser purchases rather than makes goods to sell, the cost of purchases is added to beginning merchandise inventory to compute the cost of goods available for sale.

**21. Finished Goods—**this is an inventory account reflecting the total cost incurred in manufacturing goods on hand that are ready for sale to customers.

**Work in Process—**this inventory account includes all of the costs incurred to date in manufacturing goods that are not yet completed.

**Materials—**this account represents the cost of materials on hand that will be used in the manufacturing process.

**22.** Manufacturers, such as aircraft producers and home builders, make tangible products

by applying labor and technology to raw materials. They may have as many as three inventory accounts: Finished Goods, Work in Process, and Raw Materials. Merchandisers, such as wholesalers and department stores, purchase tangible products in finished form from suppliers. They have only one inventory account, Merchandise Inventory. Service businesses, such as airlines and sports franchises, provide intangible benefits such as transportation and entertainment. They have no inventory account.

**23.** A perpetual inventory system involves maintaining a continuous record of purchases, issues, and new balances of all goods in stock. Under a periodic inventorysystem no attempt is made to record the cost of merchandise sold at the time of sale. At the end of the accounting period a physical inventory is taken for the purpose of determining the cost of goods sold and the ending inventory.

**24.** The basic elements of production cost are:

**a.** Direct materials.

**b.** Direct labor.

**c.** Factory overhead.

**25. Direct materials—**the cost of those materials which become part of the item being manufactured and can be readily identified with it.

**Indirect materials—**the cost of those items which are necessary for the manufacturing process but cannot be identified specifically with any particular item manufactured, and the cost of those materials which do become a part of the manufactured product but whose cost is too insignificant to track to individual jobs.

**Direct labor—**the labor cost for employees who work directly on the product manufactured.

**Indirect labor—**the cost of labor for those employees who are required for the manufacturing process but who do not work directly on the item being manufactured.

**Factory overhead—**includesall costs related to the manufacturing process except direct materials and direct labor, such as indirect materials, indirect labor, and all other factory expenses.

**26.** As manufacturing processes have become increasingly automated, direct labor cost as a percentage of total product cost has decreased for many companies. In the case of Harley-Davidson, it was only 10% of product cost but required an inordinate amount of time to trace directly to the products being manufactured.

**27.** Prime cost is the cost of direct materials and direct labor; it represents cost specifically identified with the product.

Conversion cost is the cost of direct labor and factory overhead; it is the expense incurred to convert raw materials into finished goods.

No, one of the component costs, direct labor, would be added twice. The cost of manufacturing includes direct materials, direct labor, and factory overhead. Both prime cost and conversion cost include the cost of direct labor.

**28.** Costs for direct materials and direct labor are charged directly to the work in process account, while the factory overhead costs are first accumulated in the factory overhead account and are then transferred to the work in process account.

**29.** Cost of goods sold represents the total manufacturing cost of the goods *sold* during a given accounting period, while the *cost of goods manufactured* represents the total manufacturing cost of all goods that were *finished* during the accounting period.

**30.** Non-factory costs are charged to selling or general administrative expense accounts and do not affect the determination of manufacturing costs. Costs which benefit both factory and non-factory operations must be allocated in some equitable manner.

**31.** A mark-on percentage is a percentage of the total manufacturing cost that is added to the manufacturing cost to establish a selling price that covers the product’s share of selling and administrative expenses and earns a satisfactory profit.

**32.** Job order costing is appropriate when the output of an enterprise consists of custom-made or specially ordered goods. Manufacturers such as machine shops and shipbuilders, merchandisers such as computer retailers, and service firms, such as CPAs and architects, all use job order costing.

**33.** Process costing is appropriate when an enterprise’s operations involve the continuous or mass production of large quantities of substantially identical items. Manufacturers such as chemical producers and candy makers, merchandisers such as newspaper publishers and agricultural wholesalers, and services such as hospital X-ray departments and airlines all use process costing.

**34.** An advantage of accumulating costs by departments (process costing) or by jobs (job order costing) is that the information provided aids management in achieving control of costs. With a process cost system, management can make departmental comparisons of current period costs with prior period costs and can take corrective action as needed. If costs were accumulated for the factory as a whole, management would have difficulty identifying specific sources of excessive costs and inefficiencies. The information provided by a job order cost system aids management in the determination of selling prices, the profit on each job, and costs applicable to similar jobs produced in future periods.

**35.** A job cost sheet is a form on which all of the individual costs applicable to a job are recorded. Since the job cost sheets show detailed costs and gross profit for each job, they are useful to management in bidding on similar jobs in the future.

**36.** Standard costs are costs that would be incurred under efficient operating conditions which are estimated by management in advance of production. Standard costs are then compared with actual costs, and differences called variances are calculated and analyzed. A standard cost system is not a separate cost accounting system but is applied in conjunction with either process costing or job order costing to increase cost control effectiveness.

**37.** Square footage occupied by each of the areas would be a good cost allocation base to use in allocating the depreciation expense between the factory operations and the selling and administrative function. This distinction is important because the depreciation allocated to factory operations is a manufacturing expense that becomes part of inventory cost and eventually cost of goods sold, whereas the portion allocated to selling and administrative expense is a period cost that is always expensed in the period incurred.

## EXERCISES

E1-1

The variances for kitchen wages and utilities were favorable for September, whereas the variances for food and supplies were unfavorable. On a year-to-date basis, the only expense that did not have the same pattern as September was utilities which had a $120 F variance for the month, but an $850 U year-to-date variance.

E1-2

No, the performance report should not be prepared just once a year. It should be furnished to managers at regular intervals, in this case monthly, on a timely basis. If it is not provided in a timely fashion, it will not be effective in controlling future operations.

E1-3

Merchandise inventory, January 1 $ 22,000

Add purchases 183,000

Merchandise available for sale $ 205,000

Less merchandise inventory, January 31 17,000

Cost of goods sold $ 188,000

##### E1-4

Finished goods, July 1 $ 85,000

Add cost of goods manufactured 343,000

Finished goods available for sale $ 428,000

Less finished goods, July 31 93,000

Cost of goods sold $ 335,000

E1-5

Selling &

Direct Direct Factory Admin.

Items Materials Labor Overhead Expense

**a.** Steel used in an overhead door plant ****

**b.** Cloth used in a shirt factory ****

**c.** Fiberglass used by a sailboat

builder ****

**d.** Cleaning solvent for the factory floor ****

**e.** Wages of a binder employed in a

printing plant ****

**f.** Insurance on factory machines ****

**g.** Rent paid for factory buildings ****

**h.** Wages of the Machining   
 Department supervisor ****

**i.** Leather used in a shoe factory ****

**j.** Wages of a factory janitor ****

**k.** Electric power consumed in

operating factory machines ****

**l.** Depreciation on corporate offices ****

**m.** Fuel used in heating a factory ****

**n.** Paint used in the manufacture of

jet skis ….….. ****

**o.** Wages of an ironworker in the

construction business ****

**p.** Electricity used in lighting

sales offices ****

##### E1-6

When direct materials and supplies are purchased, the materials account is debited. When direct materials and supplies are issued into production, Materials is credited, Work in Process is debited for the cost of the direct materials, and Factory Overhead is debited for the cost of indirect materials.

When labor costs are distributed, the payroll account is credited, Work in Process is debited for the cost of direct labor, and Factory Overhead is debited for the cost of indirect labor.

**E1-6 Concluded**

As other costs related to manufacturing are incurred, the factory overhead account is debited. A debit to Work in Process for factory overhead is made to transfer overhead expenses to this account. At the same time, the factory overhead account is credited. The total cost of goods completed is recorded by debiting Finished Goods and crediting Work in Process. When units are sold, Cost of Goods Sold is debited and Finished Goods is credited.

##### E1-7

Coral Park Production Co.

Statement of Cost of Goods Manufactured

For the Month Ended January 31, 20—

**a.** Direct Materials:

Inventory, January 1 $ 25,000

Add Purchases 21,000

Total cost of available materials $ 46,000

Less inventory, January 31 22,000

Cost of materials used $ 24,000

Less indirect materials used 1,000

Cost of direct materials used in production $ 23,000

Direct labor 18,000

Factory overhead:

Indirect materials $ 1,000

Indirect labor 3,000

Other 8,000

Total factory overhead 12,000

Total manufacturing cost $ 53,000

Add work in process inventory, January 1 24,000

$ 77,000

Less work in process inventory, January 31 20,000

Cost of goods manufactured $ 57,000

**b.** Finished goods inventory, January 1 $ 32,000

Add cost of goods manufactured 57,000

Goods available for sale $ 89,000

Less finished goods inventory, January 31 30,000

Cost of goods sold $ 59,000

**E1-8**

Phoenix Products Co.

Statement of Cost of Goods Manufactured

For the Month Ended October 31, 20—

**a.** Direct Materials:

Inventory, October 1 $ 22,000

Add Purchases 18,000

Total cost of available materials $ 40,000

Less inventory, October 31 25,000

Cost of materials used $ 15,000

Less indirect materials used 1,000

Cost of direct materials used in production $ 14,000

Direct labor 21,000

Factory overhead:

Indirect materials $ 1,000

Indirect labor 4,000

Other 11,000

Total factory overhead 16,000

Total manufacturing cost $ 51,000

Add work in process inventory, October 1 20,000

$ 71,000

Less work in process inventory, October 31 24,000

Cost of goods manufactured $ 47,000

**b.** Finished goods inventory, October 1 $ 30,000

Add cost of goods manufactured 47,000

Goods available for sale $ 77,000

Less finished goods inventory, October 31 32,000

Cost of goods sold $ 45,000

E1-9

**a.** Direct materials used during the period $ 205,000

Add inventory of direct materials at the end of the period 95,000

Direct materials available during the period $ 300,000

Less inventory of direct materials at the beginning of the

period 90,000

Direct materials purchased during the period $ 210,000

**b.** Total manufacturing costs incurred during the period $ 675,000

Less: Direct materials used $ 205,000

Factory overhead incurred 175,000 380,000

Direct labor costs incurred during the period $ 295,000

**c.** Cost of goods available for sale $ 775,000

Less finished goods inventory at the end of the period 75,000

Cost of goods sold during the period $ 700,000

**d.** Sales $ 900,000

Costs of goods sold 700,000

Gross profit $ 200,000

##### E1-10

**a.** Work in Process (Direct materials) 21,000

Factory Overhead (Indirect materials) 5,000

Materials 26,000

**b.** Work in Process (Direct labor) 15,000

Factory Overhead (Indirect labor) 3,000

Payroll 18,000

**c.** Factory Overhead 7,200

Accounts Payable (or Prepaid Rent) 4,000

Accounts Payable (Utilities) 1,200

Accounts Payable (or Prepaid Insurance) 500

Accumulated Depreciation—Machinery and Equipment 1,500

**d.** Work in Process 15,200

Factory Overhead 15,200

($5,000 + $3,000 + $7,200)

##### E1-11

**a.**

Direct Direct Total

Jobs Materials Labor Factory Production

Completed Cost Cost Overhead Cost

1040 $ 3,600 $ 4,000 $ 1,600 $ 9,200

1065 2,380 2,500 1,000 5,880

1120 1,800 1,700 680 4,180

Total $ 7,780 $ 8,200 $ 3,280 $ 19,260

**b.** Finished Goods 19,260

Work in Process—(Jobs1040, 1065, 1120) 19,260

**c.**

**Selling Price**

Job 1040 ($9,200 × 40% = 3,680 + 9,200) $12,880

Job 1065 ($5,880 × 40% = 2,352 + 5,880) $8,232

Job 1120 ($4,180 × 40% = 1,672 + 4,180) $5,852

**d.**  Accounts Receivable 8,232

Sales 8,232

Cost of Goods Sold 5,880

Finished Goods 5,880

##### E1-12

**a.**

Direct Direct Total

Jobs Materials Labor Factory Production

Completed Cost Cost Overhead Cost

1100 $ 4,200 $ 5,000 $ 9,000 $ 18,200

1200 3,700 4,500 7,800 16,000

1300      2,900 4,100 6,300 13,300

Total $10,800 $13,600 $23,100 $ 47,500

**b.** Work in Process—(Jobs 1100, 1200, 1300) 10,800

Materials 10,800

Work in Process—(Jobs 1100, 1200, 1300) 13,600

Payroll 13,600

Work in Process—(Jobs 1100, 1200, 1300) 23,100

Factory Overhead 23,100

**c.** Finished Goods 47,500

Work in Process—(Jobs1100, 1200, 1300) 47,500

**d.**

**Unit Cost**

Job 1100 ($18,200  500) $36.40

Job 1200 ($16,000  400) $40.00

Job 1300 ($13,300  300) $44.33

**e.**

**Selling Price Per Unit**

Job 1100 ($36.40 × 50% = 18.20 + 36.40) $54.60

Job 1200 ($40.00 × 50% = 20.00 + 40.00) $60.00

Job 1300 ($44.33 × 50% = 22.17 + 44.33) $66.50

E1-13

**a.** Work in Process 14,500

Factory Overhead (Indirect materials) 1,200

Materials 15,700

**b.** Work in Process 11,500

Factory Overhead (Indirect labor) 900

Payroll 12,400

**c.** Work in Process 9,500

Factory Overhead 9,500

**d.** Finished Goods 27,500

Work in Process\* 27,500

\*Jobs completed:

Sprinters $12,000

Trekkers 15,500

Total $27,500

**e.** Cost of Goods Sold 27,500

Finished Goods 27,500

Accounts Receivable 49,000

Sales ($22,000 + $27,000) 49,000

Computations:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Direct  Material Cost | Direct  Labor Costs | Factory Overhead | Total  Product Costs |
| Sprinters | $ 5,000 | $ 4,000 | $3,000 | $12,000 |
| Trekkers | 6,000 | 5,000 | 4,500 | 15,500 |
| Roadsters | 3,500 | 2,500 | 2,000 | 8,000 |
|  | $14,500 | $11,500 | $9,500 | $35,500 |

PROBLEMS

P1-1

**Barbara’s Bistro**

**Performance Report—Dining Room**

**February 29, 2016**

Budgeted Actual Variance

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Expense | Feb. | Year-to- Date | Feb. | Year-to-Date | Feb. | Year-to- Date |
| Dining room wages | $4,150 | $8,450 | $4,400 | $9,100 | $250U | $650U |
| Laundry and housekeeping | 1,500 | 3,150 | 1,400 | 3,000 | 100F | 150F |
| Utilities | 2,050 | 4,250 | 2,100 | 4,450 | 50U | 200U |
| Depreciation | 1,500 | 3,000 | 1,500 | 3,000 | -------- | -------- |
| Total | $9,200 | $18,850 | $9,400 | $19,550 | $200U | $700U |

P1- 2

**1.** Merchandise inventory, April 1 $ 38,000

Add purchases 121,000

Merchandise available for sale $159,000

Less merchandise inventory, April 30 33,000

Cost of goods sold $126,000

**2.** Finished goods, April 1 $ 67,000

Add cost of goods manufactured 287,000

Finished goods available for sale $354,000

Less finished goods, April 30 61,000

Cost of goods sold $293,000

**P1-3**

**1.** Merchandise inventory, Sept. 1 $ 43,000

Add purchases 111,000

Merchandise available for sale $154,000

Less merchandise inventory, Sept. 30 38,000

Cost of goods sold $116,000

**2.** Finished goods, Sept. 1 $ 61,000

Add cost of goods manufactured 267,000

Finished goods available for sale $328,000

Less finished goods, Sept. 30 67,000

Cost of goods sold $261,000

##### P1-4

##### 1.

Rochester Electronics, Inc.

Statement of Cost of Goods Manufactured

For the Month Ended November 30, 2016

Direct Materials:

Inventory, November 1 $ 0

Add Purchases 33,000

Total cost of available materials $33,000

Less inventory, November 30 7,400

Cost of materials used $25,600

Less indirect materials used 1,400

Cost of direct materials used in production $ 24,200

Direct labor 18,500

Factory overhead:

Indirect materials $ 1,400

Indirect labor 4,300

Depreciation of building 3,000

Depreciation of machinery and equipment 2,200

Utilities 2,750

Total factory overhead 13,650

Cost of goods manufactured during the month $ 56,350

##### P1-4 Continued

2.

Rochester Electronics, Inc.

Income Statement

For the Month Ended November 30, 2016

Sales $ 68,300

Cost of goods sold:

Finished goods inventory, November 1 $ 0

Add cost of goods manufactured 56,350

Goods available for sale $56,350

Less finished goods inventory, November 30 13,900 42,450

Gross profit on sales $ 25,850

Selling and administrative expenses 15,200

Net income $ 10,650

##### P1-4 Concluded

3.

Rochester Electronics, Inc.

Balance Sheet

November 30, 2016

Assets

Current assets:

Cash $ 21,800

Accounts receivable 16,200

Inventories:

Finished goods $ 13,900

Work in process 0

Materials 7,400 21,300

Total current assets $ 59,300

Plant and equipment:

Building $300,000

Less accumulated depreciation 3,000 $ 297,000

Machinery and equipment $ 88,000

Less accumulated depreciation 2,200 85,800

Total plant and equipment 382,800

Total assets $ 442,100

Liabilities and Stockholders’ Equity

Current liabilities:

Accounts payable $ 8,900

Stockholders’ equity:

Capital stock $422,550

Retained earnings 10,650\*

Total stockholders’ equity 433,200

Total liabilities and stockholders’ equity $442,100

\* Since this is the first month of operations, there are no beginning retained earnings; nor does it appear dividends were paid, so the current month’s net income is the ending retained earnings.

##### P1-5

##### 1. Appleton Appliances, Ltd.

Statement of Cost of Goods Manufactured

For the Month Ended June 30, 2016

Direct Materials:

Inventory, June 1 $ 0

Add Purchases 23,000

Total cost of available materials $23,000

Less inventory, June 30 4,700

Cost of materials used $18,300

Less indirect materials used 1,400

Cost of direct materials used in production $ 16,900

Direct labor 18,500

Factory overhead:

Indirect materials $ 1,400

Indirect labor 6,010

Depreciation of building 3,000

Depreciation of machinery and equipment 2,200

Utilities 2,750

Total factory overhead 15,360

Cost of goods manufactured during the month $50,760

2.

Appleton Appliances, Ltd.

Income Statement

For the Month Ended June 30, 2016

Sales $63,800

Cost of goods sold:

Finished goods inventory, June 1 $ 0

Add cost of goods manufactured 50,760

Goods available for sale $50,760

Less finished goods inventory, June 30 19,300 31,460

Gross profit on sales $32,340

Selling and administrative expenses 12,500

Net income $19,840

##### P1-5 Concluded

**3.**

Appleton Appliances, Ltd.

Balance Sheet

June 30, 2016

Assets

Current assets:

Cash $ 15,500

Accounts receivable 12,600

Inventories:

Finished goods $ 19,300

Work in process 0

Materials 4,700 24,000

Total current assets $ 52,100

Plant and equipment:

Building $400,000

Less accumulated depreciation 3,000 $ 397,000

Machinery and equipment $ 66,000

Less accumulated depreciation 2,200 63,800

Total plant and equipment 460,800

Total assets $ 512,900

Liabilities and Stockholders’ Equity

Current liabilities:

Accounts payable $ 9,800

Stockholders’ equity:

Capital stock $483,260

Retained earnings……………………………………….. 19,840 \*

Total stockholders’ equity 503,100

Total liabilities and stockholders’ equity $ 512,900

\*Since this is the first month of operations, there are no beginning retained earnings; nor does it appear dividends were paid, so the current month’s net income is the ending retained earnings.

**P1-6**

**1. a.** Materials 58,000

Accounts Payable 58,000

**b.** Work in Process 47,000

Factory Overhead (Indirect materials) 15,000

Materials 62,000

**c.** Payroll 48,000

Wages Payable 48,000

Wages Payable .......................................................... 48,000

Cash........................................................................ 48,000

**d.** Work in Process (41,000 – 12,000) 29,000

Factory Overhead (Indirect labor) 12,000

Selling and Administrative Expenses (Salaries) 7,000

Payroll 48,000

**e.** Factory Overhead (Depreciation of building) 1,600\*

Factory Overhead (Depreciation of factory

equipment) 1,833\*\*

Selling and Administrative Expenses

(Depreciation of building) 400\*

Selling and Administrative Expenses

(Depreciation of office equipment) 1,000\*\*\*

Accumulated Depreciation—Building 2,000

Accumulated Depreciation—Factory Equipment 1,833

Accumulated Depreciation—Office Equipment 1,000

\*480,000 × 5% = 24,000/12 = 2,000 (4/5 = 1,600; 1/5 = 400)

\*\*220,000 × 10% = 22,000/12 = 1,833 (rounded)

\*\*\*60,000 × 20% = 12,000/12 = 1,000

P1-6 Continued

**f.** Factory Overhead (Miscellaneous) (11,000 × ¾) 8,250

Selling and Administrative Expenses

(Miscellaneous) (11,000 × ¼) 2,750

Accounts Payable 11,000

**g.** Work in Process 38,683\*

Factory Overhead 38,683

**h.** Finished Goods 91,000

Work in Process 91,000

**i.** Accounts Receivable 362,000

Sales 362,000

Cost of Goods Sold 188,000

Finished Goods 188,000

**j.** Cash 345,000

Accounts Receivable 345,000

**k.** Accounts Payable 158,000

Cash 158,000

\*$15,000 + $12,000 + $1,600 + $1,833 + $8,250

P1-6 Continued

**2.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Cash* | |  | *Accounts Receivable* | |
| 4/30 25,000 | (c) 48,000 |  | 4/30 65,000 | (j) 345,000 |
| (j) 345,000 | (k) 158,000 |  | (i) 362,000 |  |
| *370,000* | *206,000* |  | *427,000* |  |
| *164,000* |  |  | *82,000* |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Finished Goods* | |  | *Work in Process* | |
| 4/30 120,000 | (i) 188,000 |  | 4/30 35,000 | (h) 91,000 |
| (h) 91,000 |  |  | (b) 47,000 |  |
| *211,000* |  |  | (d) 29,000 |  |
| *23,000* |  |  | (g) 38,683 |  |
|  |  |  | *149,683* |  |
|  |  |  | *58,683* |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Materials* | |  | *Building* | |
| 4/30 18,000 | (b) 62,000 |  | 4/30 480,000 |  |
| (a) 58,000 |  |  |  |  |
| *76,000* |  |  |  |  |
| *14,000* |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Accumulated*  *Depreciation—Building* | |  | *Factory Equipment* | |
|  | 4/30 72,000 |  | 4/30 220,000 |  |
|  | (e) 2,000 |  |  |  |
|  | *74,000* |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Accumulated*  *Depreciation—Factory*  *Equipment* | |  | *Office Equipment* | |
|  | 4/30 66,000 |  | 4/30 60,000 |  |
|  | (e) 1,833 |  |  |  |
|  | *67,833* |  |  |  |
|  |  |  |  |  |

P1-6 Continued

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Accumulated*  *Depreciation—Office Equipment* | |  | *Accounts Payable* | |
|  | 4/30 36,000 |  | (k) 158,000 | 4/30 95,000 |
|  | (e) 1,000 |  |  | (a) 58,000 |
|  | *37,000* |  |  | (f) 11,000 |
|  |  |  |  | *164,000* |
|  |  |  |  | *6,000* |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Payroll* | |  | *Wages Payable* | |  |  |
| (c) 48,000 | (d) 48,000 |  | (c) 48,000 | (c) 48,000 |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Capital Stock* | |  | *Retained Earnings* | |
|  | 4/30 250,000 |  |  | 4/30 504,000 |
|  |  |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Sales* | |  | *Cost of Goods Sold* | |
|  | (i) 362,000 |  | (i) 188,000 |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Factory Overhead* | |  | *Selling and Administrative*  *Expenses* | |
| (b) 15,000 | (g) 38,683 |  | (d) 7,000 |  |
| (d) 12,000 |  |  | (e) 400 |  |
| (e) 1,600 |  |  | (e) 1,000 |  |
| (e) 1,833 |  |  | (f) 2,750 |  |
| (f) 8,250 |  |  | *11,150* |  |
| *38,683* |  |  |  |  |
|  |  |  |  |  |

P1-6 Continued

**3. Custer Products, Inc.**

Statement of Cost of Goods Manufactured

For the Month Ended May 31, 2016

Direct Materials:

Inventory, May 1 $ 18,000

Add Purchases 58,000

Total cost of available materials $ 76,000

Less inventory, May 31 14,000

Cost of materials used $ 62,000

Less indirect materials used 15,000

Cost of direct materials used in production $ 47,000

Direct labor 29,000

Factory overhead:

Indirect materials $ 15,000

Indirect labor 12,000

Depreciation of building 1,600

Depreciation of factory equipment 1,833

Miscellaneous expenses 8,250

Total factory overhead 38,683

Total manufacturing cost $ 114,683

Add work in process inventory, May 1 35,000

$149,683

Less work in process inventory, May 31 58,683

Cost of goods manufactured $ 91,000

Custer Products, Inc.

Income Statement

For the Month Ended May 31, 2016

Sales $362,000

Cost of goods sold:

Finished goods inventory, May 1 $120,000

Add cost of goods manufactured 91,000

Goods available for sale $211,000

Less finished goods inventory, May 31 23,000 188,000

Gross profit on sales $174,000

Selling and administrative expenses 11,150

Net income $162,850

P1-6 Concluded

Custer Products, Inc.

Balance Sheet

May 31, 2016

Assets

Current assets:

Cash $164,000

Accounts receivable 82,000

Inventories:

Finished goods $ 23,000

Work in process 58,683

Materials 14,000 95,683

Total current assets $341,683

Plant and equipment:

Building $ 480,000

Less accumulated depreciation 74,000 $ 406,000

Factory equipment $ 220,000

Less accumulated depreciation 67,833 152,167

Office equipment $ 60,000

Less accumulated depreciation 37,000 23,000

Total plant and equipment 581,167

Total assets $922,850

Liabilities and Stockholders’ Equity

Current liabilities:

Accounts payable $ 6,000

Stockholders’ equity:

Capital stock $250,000

Retained earnings\* 666,850

Total stockholders’ equity 916,850

Total liabilities and stockholders’ equity $922,850

\*$504,000 (bal. on 4/30) + $162,850 (Net income for May) = $666,850

P1-7

**1.** Materials 55,000

Accounts Payable 55,000

**2.** Work in Process (Materials) 45,500

(Beginning balance  Purchases  Ending balance 

$6,000  $45,000  $5,500)

Factory Overhead (Indirect Materials) 9,900

(Beginning balance  Purchases  Ending balance 

$800 + $10,000  $900)

Materials 55,400

**3.** Payroll 65,000

Wages Payable 65,000

**4.** Work in Process (Labor) 50,000

Factory Overhead (Indirect Labor) 15,000

Payroll 65,000

**5.** Wages Payable...................................................................... 65,000

Cash................................................................................ 65,000

**6.** Factory Overhead 42,000

Accounts Payable 42,000

**7.** Factory Overhead 10,000

Various Credits (Prepaid Insurance,

Accumulated Depreciation, etc.) 10,000

**8.** Work in Process (Factory Overhead) 76,900

(Indirect materials  Indirect labor  Factory

overhead paid  Factory overhead recorded 

$9,900  $15,000  $42,000  $10,000)

Factory Overhead 76,900

**9.** Finished Goods 169,400

(Work in process, beginning balance 

Materials  Labor  Factory overhead 

Work in process, ending balance =

$3,500  $45,500  $50,000  $76,900  $6,500)

Work in Process 169,400

P1-7 Concluded

**10.** Cost of Goods Sold 168,200

(Finished goods, beginning balance + Goods

finished during the month  Finished goods,

ending balance = $12,000 + $169,400  $13,200)

Finished Goods 168,200

P1-8

**1.**

O’Reilly Manufacturing Company

Statement of Cost of Goods Manufactured

For the Month Ended July 31, 20—

Direct materials:

Inventory, July 1 $ 20,000

Add Purchases 110,000

Total cost of available materials $ 130,000

Less inventory, July 31 26,000

Cost of materials used $ 104,000

Indirect materials used -0-

Cost of direct materials used in production $ 104,000e

Direct labor 160,000f

Factory overhead     80,000g

Total manufacturing cost $ 344,000d

Add work in process inventory, July 1     40,000

$384,000c

Less work in process inventory, July 31 36,000b Cost of goods manufactured $ 348,000a

a Cost of goods manufactured = cost of goods sold + ending finished goods inventory  beginning

finished goods inventory ($345,000 + $105,000  $102,000 = $348,000)

b Ending work in process (90%  $40,000 = $36,000)

c Total manufacturing cost to be accounted for ($348,000 + $36,000 = $384,000)

d Total manufacturing cost = total manufacturing cost to be accounted for  beginning work in process

inventory ($384,000  $40,000 = $344,000)

e Direct materials used = beginning inventory + purchases  ending inventory =

($20,000 + $110,000  $26,000 = $104,000)

f Direct labor = total manufacturing cost  direct materials  factory overhead

X = $344,000  $104,000  0.5X

X = $160,000

g Factory overhead = 50%  $160,000 = $80,000

**P1-8 Concluded**

**2.**

O’Reilly Manufacturing Company

Schedule to Compute Prime Cost

For the Month Ended July 31, 20—

Direct materials used $ 104,000 e

Direct labor incurred 160,000 f

Prime cost incurred during July $ 264,000

**3.**

O’Reilly Manufacturing Company

Schedule to Compute Conversion Cost

For the Month Ended July 31, 20—

Direct labor incurred $ 160,000 f

Factory overhead 80,000 g

Conversion cost incurred during July $ 240,000

P1-9

Glasson Manufacturing Co.

Statement of Cost of Goods Manufactured

For the Year Ended December 31, 2016

Direct Materials:

Inventory, January 1 $ 30,000 e

Add purchases 400,000

Total cost of available materials $430,000

Less inventory, December 31 60,000

Cost of materials used $370,000

Less indirect materials used -0-

Direct materials used $ 370,000 c

Direct labor 360,000 b

Factory overhead 270,000 a

Total manufacturing cost $1,000,000

Add work in process inventory, January 1 20,000 d

$1,020,000

Less work in process inventory, December 31 50,000 d

Cost of goods manufactured $ 970,000

**Supporting Computations:**

a Factory overhead: 27%  total manufacturing cost (27%  $1,000,000) = $270,000

b Direct labor: 75% of direct labor equals $270,000, so direct labor was $360,000

($270,000  75%)

c Direct materials used equals total manufacturing cost less direct labor and factory

overhead [$1,000,000  ($360,000 + $270,000)]

d Work in process inventories:

Let X = ending work in process inventory

$1,000,000 + 0.4 X  X = $ 970,000

X = $50,000

0.4X = $20,000

##### e Cost of materials used + ending materials inventory = Total cost of available materials – purchases = beginning materials inventory [$370,000 + $60,000 = $430,000 - $400,000 = $30,000]P1-10

**1.**

Job 101 Job 102 Job 103 Job 104 Total

Direct materials $2,200 $ 5,700 $ 7,100 $ 1,700 $ 16,700

Direct labor 2,700 6,800 9,200 2,100 20,800

Factory overhead 1,200 2,000 3,800 1,000 8,000

Total $6,100 $14,500 $20,100 $ 4,800 $45,500

**2. a.** Materials 37,000

Accounts Payable 37,000

**b.** Work in Process 16,700

Factory Overhead 1,350

Materials 18,050

**c.** Payroll 23,050

Wages Payable 23,050

**d.** Work in Process 20,800

Factory Overhead 2,250

Payroll 23,050

P1-10 Concluded

**e.** Factory Overhead 2,400

Accounts Payable 2,400

**f.** Factory Overhead 2,000

Accumulated Depreciation—Machinery 2,000

**g.** Work in Process 8,000

Factory Overhead 8,000

**h.** Finished Goods\* 40,700

Work in Process 40,700

**i.** Accounts Receivable 39,000

Sales 39,000

Cost of Goods Sold\*\* 20,600

Finished Goods 20,600

\*Completed \*\*Billed

Job 101 $ 6,100 $ 6,100

Job 102 14,500 14,500

Job 103 20,100 —

$40,700 $20,600

**3.** Added to work in process:

Direct materials $16,700

Direct labor 20,800

Factory overhead 8,000

Total $ 45,500

Transferred to finished goods 40,700

Balance (represented by the cost of Job 104) $ 4,800

**4.** Added to finished goods $40,700

Less costs of goods sold 20,600

Balance (represented by the cost of Job 103) $20,100

P1-11

**1.** Work in Process (Jobs 312,411,510) 69,000

Materials 69,000

Work in Process (Jobs 312,411,510) 185,000

Payroll 185,000

Work in Process (Jobs 312,411,510) 153,000

Factory Overhead 153,000

Finished Goods 407,000

Work in Process (Jobs 312,411,510) 407,000

Accounts Receivable (or Cash) 447,250

Sales 447,250

Cost of Goods Sold 407,000

Finished goods 407,000

**2.**

a.

312 411 510 Total

Sales $152,000 $120,000 $175,250 $447,250

Manufacturing cost:

Materials $25,000 $15,000 $29,000 $ 69,000

Direct labor 70,000 60,000 55,000 185,000

Factory overhead 50,000 40,000 63,000 153,000

Total cost of job $145,000 $115,000 $147,000 $407,000

Gross profit $7,000 $5,000 $ 28,250 $ 40,250

c.

312 411 510

Number of units completed 10,000 5,000 14,000

Selling price per unit $15.20 $24.00 $12.52

Manufacturing cost per unit 14.50 23.00 10.50

Gross profit $ 0.70 $ 1.00 $2.02

P1-12

**1.** Work in Process (Jobs 10AX,11BX,12CX) 138,000

Materials. 138,000

Work in Process (Jobs 10AX,11BX,12CX) 370,000

Payroll 370,000

Work in Process (Jobs 10AX,11BX,12CX) 306,000

Factory Overhead 306,000

Finished Goods 814,000

Work in Process (Jobs 10AX,11BX,12CX) 814,000

Accounts Receivable (or Cash) 900,000

Sales 900,000

Cost of Goods Sold 814,000

Finished goods 814,000

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 2. a. | 10AX | 11BX | 12CX | Total |
| Sales | $300,000 | $250,000 | $350,000 | $900,000 |
| Manufacturing Costs: |  |  |  |  |
| Materials | $ 50,000 | $ 30,000 | $ 58,000 | $138,000 |
| Direct labor | 140,000 | 120,000 | 110,000 | 370,000 |
| Factory overhead | 100,000 | 80,000 | 126,000 | 306,000 |
| Total cost of job | $290,000 | $230,000 | $294,000 | $814,000 |
| Gross profit | $ 10,000 | $ 20,000 | $ 56,000 | $ 86,000 |
| b. |  |  |  |  |
| Number of units completed | 10,000 | 5,000 | 14,000 |  |
| Selling price per unit | $30.00 | $50.00 | $25.00 |  |
| Manufacturing cost per unit | 29.00 | 46.00 | 21.00 |  |
| Gross profit per unit | $ 1.00 | $ 4.00 | $4.00 |  |

P1-13

**1.**

Direct Direct Total

Materials Labor Factory Production

Job Cost Cost Overhead Cost

007 $ 50,000 $ 80,000 $ 60,000 $190,000

008 22,000 40,000 32,000 94,000

009 18,500 23,000 17,500 59,000

010 8,000 12,000 10,500 30,500

Total $98,500 $155,000 $120,000 $373,500

**2.** Work in Process 98,500

Materials 98,500

Work in Process 155,000

Payroll 155,000

Work in Process 120,000

Factory Overhead 120,000

**3.** Finished Goods Inventory (Job 009) $59,000

Work in Process Inventory (Job 010) $30,500

**4.** Finished Goods 343,000

Work in Process (Jobs 007, 008, 009) 343,000

Accounts Receivable 426,000

Sales (Jobs 007, 008) 426,000

Cost of Goods Sold (Jobs 007, 008) 284,000

Finished Goods 284,000

P1-13 Concluded

**5.**

Potomac Automotive Co.

Statement of Cost of Goods Manufactured

For the Month Ended January 31, 20—

Direct Materials:

Inventory, January 1 $ -0-

Add purchases 115,000

Total cost of available materials $115,000

Less inventory, January 31 \* 16,500

Cost of materials used $ 98,500

Less indirect materials used -0-

Direct materials used $ 98,500

Direct labor 155,000

Factory overhead 120,000

Total manufacturing cost $ 373,500

Add work in process inventory, January 1 0

$ 373,500

Less work in process inventory, January 31 30,500

Cost of goods manufactured $ 343,000

\* $115,000 cost of available materials – cost of materials used of 98,500

**MINI-CASE**

**1.** The ethical standards which apply to this case are competency, integrity, and objectivity. Competency requires that Branson perform her professional duties in accordance with relevant laws, regulations, and technical standards. Recording revenue in 2016 would be a violation of generally accepted accounting principles (GAAP). Integrity requires that Branson refrain from either actively or passively subverting the attainment of the organization’s legitimate and ethical objectives and from engaging in activities which might discredit the profession. Objectivity requires that Branson communicate information fairly and objectively.

**2.** Branson should first explain to Carson that recording the revenue in 2016 would be a violation of GAAP. If Carson persists, Branson should report the matter to the corporate controller. It would not be appropriate for Branson to report the matter to individuals outside of the organization unless she believes there is a clear violation of the law.