

AMERICAN INTERNATIONAL UNIVERSITY - BANGLADESH

Faculty of Business Administration

Department of Accounting

Undergraduate Program

BBA -1101: Principles of Accounting (Sections:A, C, G & I)

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Comprehensive Assignment-Solution

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Q.No.1.

Fun App Company has the following liability accounts after posting adjusting entries: Accounts Payable \$77,000, Unearned Ticket Revenue \$36,000, WarrantyLiability \$25,000, Interest Payable \$10,000, Mortgage Payable \$150,000, Notes Payable \$100,000, and Sales Taxes Payable \$14,000. Assume the company's operating cycle is less than 1 year, ticket revenue will be recognized within 1 year, warranty costs are expected to be incurred within 1 year, and the notes mature in 3 years.

Required:

- (A) Prepare the current liabilities section of the balance sheet, assuming \$40,000 of the mortgage is payable next year.
(B) Comment on Fun App Company's liquidity, assuming total current assets are \$350,000.

Solution

**(a) Fun App Company
Partial Balance Sheet**

Current liabilities

| | |
|------------------------------------|------------------|
| Accounts payable | \$ 77,000 |
| Long-term debt due within one year | 40,000 |
| Unearned ticket revenue | 36,000 |
| Warranty liability | 25,000 |
| Sales taxes payable | 14,000 |
| Interest payable | 10,000 |
| Total current liabilities | \$202,000 |

b. Fun App Company's working capital is \$148,000 (\$350,000 – \$202,000), and its current ratio is 1.73:1 (\$350,000 ÷ \$202,000). Although a current ratio of 2:1 has been considered the standard for a good credit rating, many companies operate successfully with a current ratio well below 2:1

Q.No.2.

Englehart Company has the following inventory, purchases, and sales data for the month of March.

Inventory: March 1 200 units @ \$4.00 \$ 800

Purchases: March 10 500 units @ \$4.50 2,250
 March 20 400 units @ \$4.75 1,900
 March 30 300 units @ \$5.00 1,500
 Sales: March 15 500 units
 March 25 400 units
 The physical inventory count on March 31 shows 500 units on hand.

Required:

Under a periodic inventory system, determine the cost of inventory on hand at March 31 and the cost of goods sold for March under (a) FIFO, (b) LIFO, and (c) average-cost. (For average-cost, carry cost per unit to three decimal places.)

Solution:

Solution

1. The cost of goods available for sale is \$6,450, as follows.

| | |
|--|---------|
| Inventory: 200 units @ \$4.00 | \$ 800 |
| Purchases: March 10 500 units @ \$4.50 | 2,250 |
| March 20 400 units @ \$4.75 | 1,900 |
| March 30 300 units @ \$5.00 | 1,500 |
| Total goods available for sale | \$6,450 |

a. FIFO Method

Ending inventory:

Unit Total

| Date | Units | Cost | Cost |
|----------|-------|--------|---------|
| March 30 | 300 | \$5.00 | \$1,500 |
| March 20 | 200 | 4.75 | 950 |
| | | | \$2,450 |

Cost of goods sold: \$6,450 – \$2,450 = \$4,000

b. LIFO Method

Ending inventory:

Unit Total

Date Units Cost Cost

March 1 200 \$4.00 \$ 800
 March 10 300 4.50 1,350 \$2,150

Cost of goods sold: \$6,450 – \$2,150 = \$4,300

c. Average-Cost Method

Average unit cost: \$6,450 ÷ 1,400 = \$4.607
 Ending inventory: 500 × \$4.607 = \$2,303.50
 Cost of goods sold: \$6,450 – \$2,303.50 = \$4,146.50

Q.No.3.

Henning Company, organized in 2020, has the following transactions related to intangible assets.

1/2/20 Purchased patent (7-year life) \$840,000
 4/1/20 Goodwill purchased (indefinite life) 450,000

7/1/20 10-year franchise: expiration date 7/1/2030 330,000
 9/1/20 Research and development costs 210,000.

Required:

Prepare the necessary entries to record these intangibles. All costs incurred were for cash. Make the adjusting entries as of December 31, 2020, recording any necessary amortization and reflecting all balances accurately as of that date.

Solution

| | | | |
|---|--|---------|---------|
| 2. 1/2/20 | Patents | 840,000 | |
| | Cash | | 840,000 |
| 4/1/20 | Goodwill | 450,000 | |
| | Cash | | 450,000 |
| (Part of the entry to record purchase of another company) | | | |
| 7/1/20 | Franchises | 330,000 | |
| | Cash | | 330,000 |
| 9/1/20 | Research and Development Expense | 210,000 | |
| | Cash | | 210,000 |
| 12/31/20 | Amortization Expense | | |
| | (\$840,000 ÷ 7) + [(\$330,000 ÷ 10) × 1/2] | 136,500 | |
| | Patents | | 120,000 |
| | Franchises | | 16,500 |

Ending balances, 12/31/20:

Patents = \$720,000 (\$840,000 – \$120,000)
 Goodwill = \$450,000
 Franchises = \$313,500 (\$330,000 – \$16,500)
 R&D expense = \$210,000

Q.No.4.

DuPage Company purchases a factory machine at a cost of \$18,000 on January 1, 2020. DuPage expects the machine to have a salvage value of \$2,000 at the end of its 4-year useful life. During its useful life, the machine is expected to be used 1,60,000 hours. Actual annual hourly use was 2020, 40,000; 2021, 60,000; 2022, 35,000; and 2023, 25,000.

Required:

Prepare depreciation schedules for the following methods: (a) straight-line, (b) units-of-activity, and (c) declining-balance using double the straight-line rate.

Solution

a.

Straight-Line Method:

| Computation | Annual | End of Year | Depreciable | Depreciation | Depreciation |
|-------------|------------------------|--------------|-------------|--------------|------------------|
| | | | | | Accumulated Book |
| Year | Cost* × Rate = Expense | Depreciation | Value | | |
| 2020 | \$16,000 25% = \$4,000 | \$ 4,000 | \$14,000** | | |
| 2021 | 16,000 25% = 4,000 | 8,000 | 10,000 | | |

2022 16,000 25% = 4,000 12,000 6,000
 2023 16,000 25% = 4,000 16,000 2,000
 *\$18,000 – \$2,000.
 **\$18,000 – \$4,000

Q.No.5.

Fulmer Company acquires a delivery truck at a cost of \$50,000. The truck is expected to have a salvage value of \$5,000 at the end of its 5-year useful life.

Required:

Compute annual depreciation expense for the first and second years using (a) the straight-line method and (b) double-declining balance.

Solution

a. Depreciable cost of \$45,000, (\$50,000 – \$5,000). With a 5-year useful life, annual depreciation is \$9,000, (\$45,000 ÷ 5). Under the straight-line method, depreciation is the same each year. Thus, depreciation is \$9,000 for both the first and second years.

b. The declining-balance rate is 40% (20% × 2), which is applied to book value at the beginning of the year. The computations are:

| | Book Value × Rate | = Depreciation |
|--------|---------------------------|----------------|
| Year 1 | \$50,000 40% | \$20,000 |
| Year 2 | (\$50,000 – \$20,000) 40% | \$12,000 |

Q.No.6.

Giolito Company sells equipment on August 31, 2020, for \$20,000 cash. The equipment originally cost \$60,000 and as of January 1, 2020, had accumulated depreciation of \$38,000. Depreciation for the first 8 months of 2020 is \$6,000. Prepare the journal entries to (a) update depreciation to August 31, 2020 and (b) record the sale of the equipment.

Solution

Solution:

a. Depreciation Expense 6,000
 Accumulated Depreciation – Equipment 6,000

b. Cash 20,000
 Accumulated Depreciation – Equipment 44,000
 Equipment 60,000
 Gain on Disposal of Plant Assets 4,000

Cost of equipment \$60,000
 Less: Accumulated depreciation 44,000*
 Book value at date of disposal 16,000
 Proceeds from sale 20,000
 Gain on disposal \$ 4,000
 *\$38,000 + \$6,000

Q.No.7.

The following are selected data for Lopez Furniture: Utilities for manufacturing equipment \$120,000 , Wood 850,000 ,Depreciation on factory building 220,000 , Wages for production workers 391,000, Fabric 313,000, Delivery expense 144,000, Property taxes on factory 70,000, Using the selected data above, determine total (a) direct materials, (b) direct labor, (c) manufacturing overhead, (d) product costs, and (e) period costs. Classify manufacturing costs.

Solution:

1. a. Wood (\$850,000) + Fabric (\$313,000) = \$1,163,000
- b. Wages for production workers, \$391,000
- c. Utilities (\$120,000) + Depreciation (\$220,000) + Property taxes (\$70,000) = \$410,000
- d. Direct materials (\$1,163,000) + Direct labor (\$391,000) + Manufacturing overhead (\$410,000) =

Q.No.8.

Cody Cellular has the following data: direct labor \$100,000, direct materials used \$90,000, total manufacturing overhead \$110,000, beginning work in process \$15,000, and ending work-in-process \$24,000. Compute (a) total manufacturing costs, (b) total cost of work in process, and (c) cost of goods manufactured

Solution:

- a. Direct materials use \$ 90,000
Direct labor 100,000
Total manufacturing overhead 110,000
Total manufacturing costs \$300,000
- b. Beginning work in process \$ 15,000
Total manufacturing costs 300,000
Total cost of work in process \$315,000
- c. Total cost of work in process \$315,000
Less ending work in process (24,000)
Cost of goods manufactured \$291,000

Q.No.9.

Fredricks Company reports the following costs and expenses in May. Factory utilities \$ 15,600 Direct labor \$89,100, Depreciation on factory Sales salaries 46,400 equipment 12,650 Property taxes on factory, Depreciation on delivery trucks 8,800 building 2,500 Indirect factory labor 48,900 Repairs to office equipment 2,300, Indirect materials 80,800 Factory repairs 2,000, Direct materials used 137,600 Advertising 18,000, Factory manager's salary 13,000 Office supplies used 5,640.

Required:

From the information, determine the total amount of: a. Manufacturing overhead. b. Product costs. c. Period costs. Determine the total amount of various types of costs.

Solution:

- a. Factory utilities \$ 15,600
- Depreciation on factory equipment 12,650
- Indirect factory labor 48,900
- Indirect materials 80,800
- Factory manager's salary 13,000
- Property taxes on factory building 2,500
- Factory repairs 2,000
- Manufacturing overhead \$175,450
- b. Direct materials \$137,600
- Direct labor 89,100
- Manufacturing overhead 175,450
- Product costs \$402,150
- c. Depreciation on delivery trucks \$ 8,800
- Sales salaries 46,400
- Repairs to office equipment 2,300
- Advertising 18,000
- Office supplies used 5,640
- Period costs \$ 81,140

Q.No.10.

Tommi Corporation incurred the following costs while manufacturing its product. Materials used in production \$120,000 Advertising expense \$45,000, Depreciation on plant 60,000 Property taxes on plant 19,000, Property taxes on store 7,500 Delivery expense 21,000, Labor costs of assembly-line workers 110,000 Sales commissions 35,000, Factory supplies used 25,000 Salaries paid to sales clerks 50,000 Work-in-process inventory was \$10,000 at January 1 and \$14,000 at December 31. Finished goods inventory was \$60,500 at January 1 and \$50,600 at December 31. (Assume all materials were direct.)

Required:

- a. Compute cost of goods manufactured.
- b. Compute cost of goods sold. Compute cost of goods manufactured and sold.

Solution:

- a. Work-in-process, 1/1 \$ 10,000
- Direct materials used \$120,000
- Direct labor 110,000
- Manufacturing overhead
- Depreciation on plant \$60,000
- Factory supplies used 25,000
- Property taxes on plant 19,000
- Total manufacturing overhead 104,000
- Total manufacturing costs 334,000
- Total cost of work-in-process 344,000
- Less: Ending work-in-process 14,000

Cost of goods manufactured \$330,000
b. Finished goods, 1/1 \$ 60,500
Cost of goods manufactured 330,000
Cost of goods available for sale 390,500
Less: Finished goods, 12/31 50,600
Cost of goods sold \$339,900

Q.No.11.

Superior Company has the following cost and expense data for the year ending December 31, 2020.

Raw materials, 1/1/20 \$ 30,000 Property taxes, factory building \$ 6,000
Raw materials, 12/31/20 20,000 Sales revenue 1,500,000
Raw materials purchases 205,000 Delivery expenses 100,000
Work in process, 1/1/20 80,000 Sales commissions 150,000
Work in process, 12/31/20 50,000 Indirect labor 105,000
Finished goods, 1/1/20 110,000 Factory machinery rent 40,000
Finished goods, 12/31/20 120,000 Factory utilities 65,000
Direct labor 350,000 Depreciation, factory building 24,000
Factory manager's salary 35,000 Administrative expenses 300,000
Insurance, factory 14,000.

Required:

- Prepare a cost of goods manufactured schedule for Superior Company for 2020. (Assume that all raw materials used were direct materials.)
- Prepare an income statement for Superior Company for 2020.
- Assume that Superior Company's accounting records show the balances of the following current asset accounts: Cash \$17,000, Accounts Receivable (net) \$120,000, Prepaid Expenses \$13,000, and Short-Term Investments \$26,000. Prepare the current assets section of the balance sheet for Superior Company as of December 31, 2020.
Prepare a cost of goods manufactured schedule, an income statement, and a partial balance sheet.

Solution:

a. Superior Company
Cost of Goods Manufactured Schedule
For the Year Ended December 31, 2020
Work in process, 1/1 \$ 80,000
Direct materials
Raw materials inventory, 1/1 \$ 30,000
Raw materials purchases 205,000
Total raw materials available for use 235,000
Less: Raw materials inventory, 12/31 20,000
Direct materials used \$215,000
Direct labor 350,000
Manufacturing overhead
Indirect labor \$105,000
Factory utilities 65,000

Factory machinery rent 40,000
 Factory manager's salary 35,000
 Depreciation, factory building 24,000
 Insurance, factory 14,000
 Property taxes, factory building 6,000
 Total manufacturing overhead 289,000
 Total manufacturing costs 854,000
 Total cost of work in process 934,000
 Less: Work in process, 12/31 50,000
 Cost of goods manufactured \$ 884,000

b. Superior Company
Income Statement
For the Year Ended December 31, 2020

Sales revenue \$1,500,000
 Cost of goods sold
 Finished goods inventory, January 1 \$110,000
 Cost of goods manufactured 884,000
 Cost of goods available for sale 994,000
 Less: Finished goods inventory, December 31 120,000
 Cost of goods sold 874,000
 Gross profit 626,000
 Operating expenses
 Administrative expenses 300,000
 Sales commissions 150,000
 Delivery expenses 100,000
 Total operating expenses 550,000
 Net income \$ 76,000

c. Superior Company
Balance Sheet (partial)
December 31, 2020

Current assets
 Cash \$ 17,000
 Short-term investments 26,000
 Accounts receivable (net) 120,000
 Inventory
 Finished goods \$120,000
 Work in process 50,000
 Raw materials 20,000 190,000
 Prepaid expenses 13,000
 Total current assets \$366,000

Q.No.12.

Benji Company accumulates the following data concerning a mixed cost, using miles as the activity level.

| Miles Driven | Total Cost | Miles Driven | Total Cost |
|---------------|------------|--------------|------------|
| January 7,500 | \$20,000 | March 8,500 | \$22,000 |

February 8,200 21,100 April 8,300 21,750

Compute the variable- and fixed-cost elements using the high-low method.

Determine variable- and fixed-cost elements using the high-low method.

Solution

1.

High Low Difference

$$\$22,000 - \$20,000 = \$2,000$$

$$8,500 - 7,500 = 1,000$$

$$\text{Variable cost per mile} = \$2,000 \div 1,000 = \$2.00$$

High Low

Total cost \$22,000 \$20,000

Less: Variable costs

$$8,500 \times \$2.00 \quad 17,000$$

$$7,500 \times \$2.00 \quad 15,000$$

Total fixed costs \$ 5,000 \$ 5,000

Mixed cost is \$5,000 plus \$2.00 per mile

Q.No.13.

Jacob Company has a unit selling price of \$600, variable costs per unit of \$216, and fixed costs of \$2,438,400.

Required:

Compute the break-even point in units using (a) the mathematical equation and (b) unit contribution margin. Compute the break-even point.

Solution

$$3. \text{ a. } \$600Q - \$216Q - \$2,438,400 = \$0$$

$$\$384Q = \$2,438,400$$

$$Q = 6,350 \text{ units}$$

$$\text{b. Contribution margin per unit} = (\$600 - \$216) = \$384$$

$$\text{Unit contribution margin} = \$2,438,400 \div \$384 = 6,350 \text{ units}$$

Q.No.14.

For Posh Company, actual sales are \$1,500,000, and break-even sales are \$1,300,000.

Compute (a) the margin of safety in dollars and (b) the margin of safety ratio. Compute the margin of safety and margin of safety ratio.

Solution:

$$4. \text{ a. Margin of safety} = \$1,500,000 - \$1,300,000 = \$200,000$$

$$\text{b. Margin of safety ratio} = \$200,000 \div \$1,500,000 = 13.3\%$$

Q.No.15.

The controller of Teton Industries has collected the following monthly expense data for use in analyzing the cost behavior of maintenance costs.

Total Total

| Month | Maintenance Costs | Machine Hours |
|----------|-------------------|---------------|
| January | \$2,900 | 300 |
| February | 3,000 | 400 |
| March | 3,600 | 600 |
| April | 4,300 | 790 |
| May | 3,200 | 500 |
| June | 4,500 | 800 |

Required:

- Determine the fixed-cost and variable-cost components using the high-low method.
- Prepare a graph showing the behavior of maintenance costs, and identify the fixed-cost and variable-cost elements. Use 200 unit increments and \$1,000 cost increments

Solution:

1. a. Maintenance Costs:

$$\frac{\$4,500 - \$2,900}{800 - 300} = \$3.20 \text{ variable cost per machine hour}$$

Machine Hours Machine Hours

Total costs \$4,500 \$2,900

Less: Variable costs

$$800 \times \$3.20 = 2,560$$

$$300 \times \$3.20 = 960$$

Total fixed costs \$1,940 \$1,940

Thus, maintenance costs are \$1,940 per month plus \$3.20 per machine hour.

Q.No.16.

Zion Seating Co., a manufacturer of chairs, had the following data for 2020: Sales 2,400 units ; Sales price \$40 per unit, Variable costs \$15 per unit, Fixed costs \$19,500.

Required:

- What is the contribution margin ratio?
- What is the break-even point in dollars?
- What is the margin of safety in dollars and the margin of safety ratio?
- If the company wishes to increase its total dollar contribution margin by 40% in 2021, by how much will it need to increase its sales if all other factors remain constant?

Solution:

2. a. Contribution margin ratio = Unit contribution margin ÷ Unit selling price

$$(\$40 - \$15) \div \$40 = 62.5\%$$

b. Break-even in dollars: $\$19,500 \div 62.5\% = \$31,200$

c. Margin of safety in dollars = $(2,400 \times \$40) - \$31,200 = \$64,800$

Margin of safety ratio = $\$64,800 \div (2,400 \times \$40) = 67.5\%$

d. Current contribution margin is $\$40 - \$15 = \$25$

Total contribution margin is $\$25 \times 2,400 = \$60,000$

40% increase in contribution margin is $\$60,000 \times 40\% = \$24,000$

Total increase in sales required is $\$24,000 \div 62.5\% = \$38,400$

Q.No.17.

Mabo Company makes calculators that sell for \$20 each. For the coming year, management expects fixed costs to total \$220,000 and variable costs to be \$9 per unit.

Required:

- Compute break-even point in units using the mathematical equation.
- Compute break-even point in dollars using the contribution margin (CM) ratio.
- Compute the margin of safety percentage assuming actual sales are \$500,000.
- Compute the sales required in dollars to earn net income of \$165,000

Solution:

a. Sales – Variable costs – Fixed costs = Net income

$$\$20Q - \$9Q - \$220,000 = \$0$$

$$\$11Q = \$220,000$$

$$Q = 20,000 \text{ units}$$

b. Unit contribution margin = Unit selling price – Unit variable costs

$$\$11 = \$20 - \$9$$

Contribution margin ratio = Unit contribution margin \div Unit selling price

$$55\% = \$11 \div \$20$$

Break-even point in dollars = Fixed costs \div Contribution margin ratio

$$= \$220,000 \div 55\%$$

$$= \$400,000$$

c. Margin of safety = Actual sales – Break-even sales

Actual sales

$$= \$500,000 - \$400,000$$

$$\$100,000$$

$$= 20\%$$

d. Sales – Variable costs – Fixed costs = Net income

$$\$20Q - \$9Q - \$220,000 = \$165,000$$

$$\$11Q = \$385,000$$

$$Q = 35,000 \text{ units}$$

$$35,000 \text{ units} \times \$20 = \$700,000 \text{ required sales}$$

OR

(Fixed costs + Target net income) \div Contribution margin ratio = Sales in dollars

$$(\$220,000 + \$165,000) \div .55 = \$700,000$$

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