**Accounting 203DL**

**Final Examination**

**Problem 1**

(30 points)

The recently opened Hike-N-Boots Company is considering producing either (1) light weight hiking boots for occasional campers or (2) a heavy-duty hiking boots for the more demanding hikers. With their current facilities, the company is capable of producing no more than 20,000 pairs of the light-weight boot or no more than 18,000 pairs of the heavy-duty style. Their sales department estimates that, in the current year, they will sell as many as 10,500 pairs of either boot style.

Cost and selling price information for the boots are:

1. Light weight style:
   1. Selling price - $82
   2. Variable production cost - $52.80
   3. Fixed production cost - $280,800
2. Heavy-duty style:
   1. Selling price - $90
   2. Variable production cost - $56.20
   3. Fixed production cost - $340,000

**Required**:

(For this problem, you should ignore income tax implications)

1. Determine the number of units of the light-weight boot style the company would have to sell in order to achieve break-even.
2. Determine the number of units of the heavy-duty boot style the company would have to sell in order to achieve break-even
3. For each boot style, determine the degree of operating leverage at the break-even point.
4. Determine the level of sales at which Hike-N-Boots Company will generate the same operating profit (or loss) regardless of which style of boot they choose to sell.
5. Given your observations above, what style of boot do you recommend that Hike-N-Boots Company produce and sell?

# Problem 2

(40 points)

Fix-Me Corporation markets and distributes pharmaceutical products. The company buys its products from various companies and resells those products to each of three different markets, General supermarket chains; Drugstore chains; and Small independent drugstores.

Pat Ewing, Fix-Me’s Controller, prepared the following analysis for month ending December 20x0:

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 1: Sales, costs of goods sold, & deliveries by market segment.** | Supermarket Chains | Drugstore Chains | Independent Drugstores |
| Average sales amount per delivery | $30,900 | $10,500 | $1,980 |
| Average cost of goods sold per delivery | $30,000 | $10,000 | $1,800 |
| Number of deliveries | 120 | 300 | 1,000 |

Currently, Mr. Ewing assesses performance using gross margin %analysis, i.e. [((Sales – Cost of Goods Sold)/ Sales) x 100].

However, recently, he has learned that activity-based cost analysis provides a more accurate measure of performance in a multi-product environment.

In preparing the activity-based cost allocation for the three product segments, Mr. Ewing identified the following Activity Areas and related Cost Drivers for those areas:

**Table 2: Activity-Area and related Cost Drivers**

|  |  |
| --- | --- |
| Activity Area | Cost Driver |
| Customer purchase order processing | Purchase orders by customers |
| Line-item ordering | Line items per purchase orders |
| Store delivery | Store deliveries |
| Cartons shipped to stores | Cartons shipped to a store per delivery |
| Shelf-stocking at customer stores | Hours of shelf-stocking |

For December 20x0, Fix-Me’sOther Operating Costs were $301,080. This amount does not include Cost of Goods Sold. The costs were incurred in the Activity Areas (with the related cost driver activity), as follows:

**Table 3: Activity-Area, total operating costs and related cost driver activity**

|  |  |  |
| --- | --- | --- |
| Activity Area | Total Costs | Cost Driver Activity |
| Customer purchase order processing | $80,000 | 2,000 customer purchase orders |
| Line-item ordering | 63,840 | 21,280 total line items per order |
| Store delivery | 71,000 | 1,420 store deliveries |
| Cartons shipped to stores | 76,000 | 76,000 cartons shipped |
| Shelf-stocking at customer stores | 10,240 | 640 shelf stocking hours |
| Total other operating costs | $301,080 |  |

Additional relevant activity-based cost allocation data for December 20x0:

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 4: Actual cost driver activity by market segment.** | Supermarket Chains | Drugstore Chains | Independent Drugstores |
| Total number of orders | 140 | 360 | 1,500 |
| Average number of line items per order | 14 | 12 | 10 |
| Total number of store deliveries | 120 | 300 | 1,000 |
| Average number of cartons shipped per store delivery | 300 | 80 | 16 |
| Average number of hours of shelf-stocking per store delivery | 3 | 0.6 | 0.1 |

**Required:**

1. Using the information in Table 1, for the period, compute gross-margin percentages for each of Fix-Me’s three market segments – Supermarket Chains, Drugstore Chains, and Independent Drugstores.Put your analysis in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Supermarket Chains | Drugstore Chains | Independent Drugstores | Total |
| Total sales |  |  |  |  |
| Total Cost of goods sold |  |  |  |  |
| Gross margin |  |  |  |  |
| Gross margin % |  |  |  |  |

1. Using the activity-based costing information from Tables 2 and 3, determine the activity-based costing allocation rates for each of the five Activity Areas.
2. Using an activity-based costing approach, allocate the other operating costs to the market segments.
3. For the period, determine the operating income and operating margin for each market segment, (Operating margin is computed as follows: [(Operating income/Sales) x 100]). For this analysis, use the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Supermarket Chains | Drugstore Chains | Independent Drugstores | Total |
| Total sales |  |  |  |  |
| Total cost of goods sold |  |  |  |  |
| Total Operating costs |  |  |  |  |
| Operating income |  |  |  |  |
| Operating margin % |  |  |  |  |

1. Explain how using the Activity-based costing approach provided a different insight into the Fix-Me’s assessment of the relative profitability of the three market segments, i.e. explain how does using the activity-based costing approach changed your observations concerning the most profitable market segment.

**Problem 3**

(30 points)

Ark-Kane Company, Inc. has the following budgeted sales for the selected four-month period:

|  |  |
| --- | --- |
| Month | Unit Sales |
| October | 80,000 |
| November | 140,000 |
| December | 100,000 |
| January | 120,000 |

At the beginning of October, the company had 38,000 units of finished goods in inventory.

Their operating plan indicates that they should retain their levels of finished goods inventory equal to 25 percent of the unit sales for the next month.

In addition, in their production process:

* They use 5 pounds of a single raw material for each unit produced. Each pound of material costs $10.
* Plans are to have inventory levels for materials equal to 30 percent of the amount of materials needed to satisfy next month's production and 168,000 units of raw material on hand at the end of December.
* Materials inventory on October 1 was 120,000 pounds.

**Required:**For Ark-Kane Company, Inc., prepare

1. A production budget in units for October, November, and December.
2. A purchase budget in pounds and dollars for October, November, and December.
3. Define the concept of budgetary slack? Why does it occur? What is the primary indication that budgetary slack is occurring?
4. Management experts argue that motivational considerations should be a part of budget planning and utilization. What do you believe is their reason for such an observation? Do you agree? Please explain your answer. Lastly, please list 4 steps a manager might take to motivate employees to participate effectively in the budgeting process.