**Financial Accounting *Homework 6***

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**P 6-6 A**

***(a) Answer:***

(1) To maximize its gross profit for the month, the Prospector should **minimize its COGS**. So:

* On March 5, the Prospector should sell the 150 diamonds of March 1 and 30 diamonds purchased on March 3.
* On March 25, the Prospector should sell the 170 diamonds purchased on March 5 and 220 diamonds purchased on March 10.

And the max gross profit should be:

(2) To minimize its gross profit for the month, the Prospector should **maximize its COGS**. So:

* On March 5, the Prospector should sell the 180 diamonds purchased on March 3.
* On March 25, the Prospector should sell the 330 diamonds purchased on March 10, 20 diamonds purchased on March 3, and 40 diamonds purchased on March 1.

The min gross profit should be:

***(b) Answer:***

The number of diamonds left on March 25 is 110. Based on the FIFO cost flow assumption, we should compute the unit price using the most recent price and can get the **ending inventory on March 25** is

So, the COGS is

And, the gross profit will be:

***(c) Answer:***

The number of diamonds left on March 25 is 110. Based on the LIFO cost flow assumption, we should compute the unit price using the earliest price and can get the **ending inventory on March 25** is

So, the COGS is

And, the gross profit will be:

***We can summarize (b) and (c) into the following:***

|  |  |  |
| --- | --- | --- |
|  | FIFO | LIFO |
| Sales Revenues | $361,500 | $361,500 |
|  |  |  |
| Beg. Inv | 46,500 | 46,500 |
| Cost of Goods Purchased | 193,750 | 193,750 |
| Cost of Goods Available for Sale | 240,250 | 240,250 |
| End Inv | 41,250 | 34,100 |
| COGS | 199,000 | 206,150 |
| Gross Profit | 162,500 | 155,350 |

***(d) Answer:***

Prospector Gems should select the LIFO cost flow assumption. The main reason is that it will have **higher COGS and smaller gross profit to avoid higher income tax expenses.**

**P 6-9 A**

***(a) Answer:***

We can get the ending inventory under a perpetual inventory system using (1) FIFO, (2) moving-average, and (3) LIFO as follows:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Date** | **FIFO** | | **Moving Average** | | **LIFO** | |
|  | COGS | End Inv | COGS | End Inv | COGS | End Inv |
| July 1 |  | $434 |  | $434 |  | $434 |
| July 6 | $310 | 124 | $310 | 124 | $310 | 124 |
| July 11 |  | 322 |  | 322 |  | 322 |
| July 14 | 190 | 132 | 193.2 | 128.8 | 198 | 124 |
| July 21 |  | 416 |  | 412.8 |  | 408 |
| July 27 | 203 | $213 | 206.4 | $206.4 | 213 | $195 |

***(b) Answer:***

From Question (a), it is clear that the **FIFO produces the highest ending inventory valuation**. Because the unit cost is increasing, and the FIFO will generate the smallest COGS, leading to the highest ending inventory valuation.