

**Solution:**

We know that the beginning inventory cost is given by:

$$\text{Beginning inventory cost} = 3,000 \times \text{£ } 2.0 = \text{£ } 6,000$$

Now, the total purchase made during this time is given by:

$$\text{Total purchase} = 2,000 \times 2.1 + 2,000 \times 2.2 + 1,000 \times 2.3 + 1,000 \times 2.5 = \text{£}13,400$$

Let us now use the periodic inventory system.

To do so, we see that 4,000 items are left in the final inventory. Thus, we need to estimate the value of this inventory to get the final inventory cost.

The estimation changes for the selected inventory cost method as follows:

**(a) LIFO:**

For LIFO, you need to take the earliest items to be unsold. Thus, we get the following value for inventory:

$$\text{Final Inventory Cost (LIFO)} = 3,000 \times 2 + 1,000 \times 2.1 = \text{£ } 8,100$$

Thus, we have the total cost of goods sold given by:

$$\text{Cost of Goods Sold} = 6,000 + 13,400 - 8,100 = \text{£ } 11,300$$

**(b) FIFO.**

For FIFO, you need to take the latest items to be unsold. Thus, we get the following value for inventory:

$$\text{Final Inventory Cost (FIFO)} = 2,000 \times 2.2 + 1,000 \times 2.3 + 1,000 \times 2.5 = 9,200$$

Thus, we have the total cost of goods sold given by:

$$\text{Cost of Goods Sold} = 6,000 + 13,400 - 9,200 = \text{£ } 10,200$$

**(c) Weighted Average**

For this method, we will use the average cost as an estimation.

The average is given by:

$$\text{Average cost of item} = \frac{19,400}{9,000} = 2.16$$

Which means that the final value for inventory should be

$$\text{Final Inventory Cost (Average)} = 2.16 \times 4,000 = 8,640$$

Thus, we have the total cost of the goods sold given by:

$$\text{Cost of Goods Sold} = 6,000 + 13,400 - 8,640 = \text{£ } 10,760$$